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LAKE CARRIERS' ASSOCIATION.

To consider and take action upon all general questions relating to the navigation and carrying business of the Great Lakes, maintain necessary shipping offices and in general to protect the common interests of Lake Carriers, and improve the character of the service rendered to the public.

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MEETING OF THE LAKE CARRIERS' ASSOCIATION.

A meeting of the Lake Carriers' Association was held on Monday in the offices of Harvey D. Goulder Esq., Cleveland, counsel for the association, to arrange for the trip of the Congressional Committee on Rivers and Harbors up the lakes, to inspect the drainage canals and the proposed power canals that may have some effect, when the work is completed, upon the navigable possibilities of the various channels connecting the chain of lakes. It was decided to ask Secretary Keep, of Buffalo, who was present, to interview Mr. Farrington, Vice-president of the Northern Steamship Company, to see what arrangement could be made to send the committee on their trip in one of that company's boats, either the North West or the North Land. Definite arrangements will be made Wednesday. It is expected the committee will start shortly after Congress adjourns, about June 11.

OUR MERCHANT MARINE.

The Scientific American calls attention to the fact that while at the present time the majority of the shipping trade of the world is in the hands of Great Britain, less than half a century ago the leading position was held by the United States, which not only had the largest tonnage, but was acknowledged to produce the fastest and in every way the best appointed ships that sailed the high seas. Today our deep sea trading fleet is insignificant in comparison with that of the leading maritime nations. The decline in the American prestige in ocean commerce dates from our civil war, when the depredation of the Confederate privateers drove into the hands of other nations that portion of our carrying trade which it did not destroy.

After the civil war, capital did not immediately devote itself to the rehabilitation of our ocean commerce, because it found plenty of occupation in internal development. There were railroads to build, new Western lands to settle up and develop, manufacturing industries to establish. Our men devoted to nautical pursuits found congenial occupation in developing our lake and coastwise trade which soon assumed surprising proportions. So our ocean shipyards were not reorganized and adapted to modern methods, and the prestige soon went to Great Britain, who was quick to adapt herself to the new order of things.

Another reason why American capital went into internal and coastwise development instead of into ocean commerce, was that our domestic industries and shipping were protected by tariff laws, while ocean ships had no adequate encouragement or protection.

Had the United States deferred her international development for another decade, and put into the construction of rolling mills and shipyards the wealth and labor which she expended so liberally in covering this country with a network of railways, we think it is not unlikely that she would have held to-day the position now occupied by Great Britain.

But now, having accomplished an internal development that is the marvel of the age, it is high time that this nation turned its attention to recovering its lost prestige in ocean commerce. The time is ripe and the means are at hand. All kinds of iron and steel construction in this country have reached such a point of development that our mills can easily undersell those of the leading industrial nations of Europe, and there is no reason why we should not build steel and iron ships more cheaply even than Great Britain. In fact, American manufactures have already produced ships' plates and general structural material so cheaply that they have been able to make shipments to the other side and sell at a profit in foreign markets in competition with the home-makers. All that is needed now to turn American energy into the line of merchant marine development is some government encouragement such as is extended by Great Britain and Germany to their shipbuilders and navigators. This is found in the bill now before Congress, which provides that all American built vessels shall receive a bounty of one and one-half cents per gross ton for every 100 miles sailed up to 1,500 miles, and an additional one cent per gross ton for every 100 nautical miles additional. Swiftmess is encouraged by granting a small extra bounty for speed above 14 knots and up to 21 knots an hour for vessels of from 1,500 tons and upward. It is provided that in earning these mileage bounties a ship must carry at least half her full cargo, while the maximum amount to be paid out for speed premiums to vessels over 20 knots speed is limited to \$2,000,000 per year. If more is earned, the \$2,000,000 is to be divided pro rata. Under the proposed law, vessels built in foreign yards may be admitted to American register, but will receive bounty rates only half as great as those paid to American-built vessels. The foreign-built vessels can receive the bounty for a period of only ten years, while they remain under American registry, while the American-built vessels will receive it for a period of 20 years.

This bill may not be the best that could be devised to encourage the rehabilitation of the American merchant marine; it may need amendment in several important particulars. But it is evident that some action should be taken by Congress along this line without further delay, and it is to be hoped that definite action may be had during the present session.

A FITTING MEMORIAL.

As a testimonial of the respect and esteem borne by employees of the Goodrich Transportation Co., for the late Capt. J. W. Gillman, marine superintendent of the company, \$1,000 has been subscribed by them for the erection of a granite monument to his memory. The monument, which is unique and beautiful, will occupy a site in Graceland cemetery, Chicago, where the body of Capt. Gillman now rests.

The monument will be of white granite, with a base of eight feet. The top is an unique design of an old fashioned capstan with several parts of rope wound around it. This capstan is upheld by a square block, around which is also several parts of rope, forming at each corner a true lover's knot, and the block is supported by old fashioned hanging knees, wooden ship style, making the whole an ingenious nautical design. On the face of the monument is the name of Capt. J. W. Gillman in raised letters, underneath which is subscribed the dates of birth and death, 1837—1900.

THE MODERN NAVAL ENGINEERS.

Marine Engineering has published in full the able President's address delivered by Admiral George W. Melville, Engineer-in-Chief, U. S. N., at the New York meeting of the American Society of Mechanical Engineers. In it Admiral Melville said, speaking of the results of the Navy personnel bill: "I think we may all feel a pardonable pride in this change in the status of our naval engineers. The amalgamation is analagous to that which occurred in the British Navy just after Cromwell's time, and the analogy is not a fanciful or forced one, but is strictly accurate. * * The amalgamation which then occurred was of the soldier and the sailor, and out of this amalgamation was evolved the man-of-warsman and the naval officer. With the advent of mastless ships, we had reached an analogous condition where one set of people fought the guns and another set managed the propulsive power, this time steam acting through machinery. The new amalgamation has made a new naval officer, 'the fighting engineer,' to be followed in time by the successor to the old man-of-warsman, who will be the 'fighting mechanic.' The basis of the new amalgamation is the fact that in this industrial age engineering and mechanical skill are the source of efficiency in our Navy, and this, as I have said, is a pardonable cause of pride to all of us as engineers."

In his life of John Ericsson written ten years ago the editor of the Army and Navy Journal said of Ericsson: "He sought to elevate engineering science above nautical experience, and to give 'greasy mechanics' the place of honor to which he believed them entitled in this age of steam and iron. He simply fought out on new lines, a contest dating from the beginning of modern naval experience. Warlike training requires that the fighting instinct should have the position of control, and this tends to place those who minister to the mechanical forces, of which even warriors must avail themselves, in the position of the galley-slaves chained to the oars, who contributed to the glory of the warriors of old without being suffered to share it. England's early naval heroes were soldiers and not sailors, and they were wholly dependent upon the nautical skill of their sailing-masters for their ability to fight upon the ocean, instead of upon the land. Finally, the character of the modern naval officer developed out of a substitution of what may be called a chemical for a merely mechanical association. Scarcely had this result been accomplished when the substitution of steam as a motive power resolved itself into their original elements these motive and militant forces.

"Once more the attempt to unite them is in progress, and its success is for the future to determine. Ericsson's career belongs to their period of antagonism, and this in a measure explains the difficulties with which he contended through life."

Speaking of our Spanish war, Admiral Melville says:

"The work of the Oregon stands out as a brilliant illustration of the fact that the modern battleship is not only the creature of the engineer, but is absolutely dependent upon him for success. You all know the story of Milligan's work as the chief engineer of the Oregon; of his ceaseless vigilance to keep everything in order and prevent any deterioration; of how he saved the good coal for the day of battle which finally came (though he was told it never would come), and, above all, how he persuaded Clark, the commanding officer, to have all the boilers ready all the time, although others had steam on only half the boilers, and, where it could be done half the engine power was laid off. I am firmly convinced that the brilliancy of the victory at Santiago is largely due to Milligan's skill and foresight, and, as I said, this case is direct proof that however admirable as a great fighting machine, the battleship is useless except in the hands of trained engineers."



DULUTH-SUPERIOR.

Special Correspondence to The Marine Record.

Agent Nelson, of the Seamen's Union reports that he has secured over 100 members at this port. He expects before the season is closed to have fully 500 members enrolled upon his books.

The new dry-dock at West Superior has been completed, and the first boat to use it was the steamer Nicaragua. The dock measures 625 feet in length, and has 18 feet of water over the sills. At the bottom the gate is 65 feet wide, and 66 feet on the top.

It is reported that the Maytham Tug Line will send three more powerful tugs here as they have now more business than can be attended to by the present fleet. The Schenck, Runnels and Wisconsin are the three boats named to locate here. Also that one tug will be sent to Erie and two will be stationed at Fairport.

The Michigan Lake Superior Power Co., Sault Ste. Marie has decided to construct its own dock in front of the power house, and Chief Engineer H. Von Schon has men already at work and will rush the structure to completion. The dock when completed will be in the neighborhood of 1,600 feet long and the depth of water the entire length will accommodate the largest vessels on the lakes.

The new steel steamer James J. Hill of the 500 foot class, loaded 6,881 gross tons of iron ore at Duluth this week on a mean draft of 17 feet 7 inches. It is estimated that she can carry 8,000 tons on a mean draft of 18 feet 2 inches but this is a greater draft than can be safely carried to Lake Erie ports, notwithstanding the volume of writing and talk regarding the continuous 20 and 21 foot channel in the connecting waters of the chain of the lakes. The Hill got her cargo but two of the other Bessemer Line boats were ordered to Ashland as the ore was not here to load them. Extra rolling stock has been provided and from now on ore will be rushed from the mines to the docks as rapidly as possible and it is expected that no further detention will be experienced by ore chartered vessels.

Owners of lumber carriers still hold for the \$2.75 rate per M. feet to Chicago and Lake Erie, shippers offer \$2.50 and assert that they will not look for a further reduction. This 25 cent difference is quite a bone of contention between vessel and shipper, though it shows conclusively that consignees are by no means rushed to keep up stockpiles, if they were, shippers would be compelled to forward consignments even at the paltry advance of freight asked for by lumber carrying bottoms, in the meantime, the season is gradually advancing and the eastern supply must be met either by lake or all rail. A large quantity of lumber is being used south and west of here and for that matter a good deal is being shipped ex lake but not the quantity that should or would be if the rate of freight was satisfactory to both sides.

Capt. James Davidson, is a heavy stockholder in the Great Lakes Towing Co., the syndicate that aims to control all the towing business at lake ports, he is also a large owner of vessel property and a man of determined propensities. His steamer Shenandoah towing the schooner Mantanzas, Capt. Johnson arrived off this port early on Saturday morning, tugs went out to tow the schooner and the steamer proceeded on to her dock. The tugmen ruled that two tugs were required to handle the schooner, but her captain considered that one was sufficient and insisted that he would only pay one tug and would not be bulldozed into paying double rates, consequently, the schooner was left outside until the next day, when her own convoy, the Shenandoah, went out and towed her into the harbor. The tugmen say that their rules are made for all and that no favors should be shown to any one, but it is safe to say that Capt. James Davidson is likely to have a say so also, and the refusal to take the Matanzas line may be a sorry act for the tugmen in the end. As if this was not enough, the next day the schooner Abyssinia also owned by Capt. Davidson required moving in the harbor, but again it was a case of two tugs or she might lay where she was, eventually the steam barge Nicaragua of the same fleet towed the schooner out in the lake. The Licensed Tug Men's Protective Association has decreed that all of these big schooners must use two tugs in port and considerable trouble is expected in its enforcement. The men say the rule applies to all owners as well as Capt. Davidson, and say there is no discrimination intended. Perhaps Capt. Davidson can make enough out of the dividends of the Great Lakes Towing Co., to pay for two tugs on his own schooners when all others are made to pay the same rate; on the other hand, one tug has been handling these wooden tow barges right along, except as occasion required a trifle more assistance.

Four bascule bridges will be built by the sanitary officials controlling the Chicago drainage canal. They will be put where the marine men recommended, so that the passing of the center piers may be said to be only a matter of a couple of years.

DETROIT.

Special Correspondence to The Marine Record.

The passenger steamer Tashmoo, built by the Detroit Ship Building Co., at Wyandotte, is 1,344 tons gross and 766 tons net, hailing from Detroit.

The new steel steamer John W. Gates loaded 7,074 gross tons iron ore at Duluth on Wednesday on a mean draft of 17 feet 7½ inches or 17.3 feet forward and 18 feet aft.

The schooner Fitzhugh has been overhauled at a cost of \$3,500. The owners of the vessel, Capt. Edward and George Horne, of Windsor, will use the boat as a consort for their steam-barge Dominion.

Mr. Charles Norton fixed a charter on Saturday, for the steamer John C. Gault, wheat, Port Huron to Buffalo at 2 cents. With the Chicago rate at 1¼ cents on corn, Mr. Norton secured a good paying charter for the owners of the Gault.

When the Detroit Ship Building Co. start on the new fire boat the hull will be put together in phenomenal time. The fire fighter will also be an ice crusher. Her hull dimensions are: Length, 122 feet; beam, 25 feet; depth, 13 feet. Three water-tight bulkheads will divide the boat into four compartments.

Capt. Francis Martin, of 159 First street, Detroit, will round out a full century of life on June 4 next. This mariner and veteran is the oldest naval officer in the United States and perhaps in the world, and the only man alive who witnessed the burial of Napoleon on the island of St. Helena in 1821.

The steamers Northern King and the Black Rock collided at the head of Belle Isle on Sunday, and damaged each other. Several plates were broken in the King, though the Black Rock was not much damaged. Both boats were bound the same way and it is not known how they could have bungled into each other in the way they did.

A good deal of fun is poked at the Connors scheme and the way he figures on handling the fleet of boats, if they ever do show up. Connors gives the boats twelve days to make a round trip, but men that know better just double the time, and in doing so double the cost of transportation over the figures given out by the erstwhile contracting stevedore and present wealthy proprietor of two of Buffalo's daily newspapers.

Vessel owners and brokers here have been watching the Davidson-Syndicate Towing Co. squabble at Duluth. Those who are well acquainted with Capt. Davidson say that he is not a man to be humbugged into any arbitrary rules made by any one. He owns vessel property and can handle it, always has done, and no doubt intends doing so as long as he is in the business. He backed out of the Lake Carriers' Association when he thought he had a reason for doing so, and the men employed by the consolidated, or Great Lakes Towing Co., in which he is a large stockholder and perhaps done more to organize than any other one man, will not be given a chance to whip him around the bush at their own sweet will unless he is in it to the finish.

While the Iron King was on her way up Lake Erie, Capt. William F. Millen ordered Engineer Christ Howard to turn water into the hold, as he thought that there was not enough ballast. Howard obeyed, but subsequently he and the captain got into a jangle, in the course of which Howard intimated to the captain that but for the latter's age he would knock his head off. On reaching Detroit, Capt. Millen laid an information before U. S. Commissioner Graves, charging Howard with insubordination. Howard was arrested by Deputy United States Marshal Taylor and spent the night in jail. After a hearing before Commissioner Graves on Friday morning last, the charge was dismissed, and in the afternoon Wisner & Harvey, attorneys for Howard, began suit against Capt. Millen for \$5,000 damages for alleged malicious prosecution and false imprisonment.

When a vessel owner makes a season contract with a towing company he has to that extent tied his hands, the tug people are sure of his work and consequently give first attention to those they are not sure of, or anything that comes along that is free to accept a tow from any line. Vessel owners here realize this situation and will neither tie up to the Maytham Line nor the syndicate known as the Great Lakes Towing Co., although Manager Collier of the latter company has been doing his level best to get season contracts here for towing at all the principal lake ports. It is a question now if any one company can control all of the towing business on the lakes. It may be all right enough for regular passenger steamboat lines to make close season figures for daily harbor towing with a large towing company, but on general principles it is considered best to take the first tug that gets alongside, providing other things are equal, such as power, price, etc.

Steamboat Inspectors Millen and Galway made their annual examination of the ferry steamer Pleasure on Wednesday morning at Belle Isle, and, according to the Evening News, had this to say about the uniform excellence of the ferry boats: "The Detroit ferry boats are ahead of anything else of their class in the United States. Of course, in mere point of equipment, of life-boats, life-saving drills, and safety of boilers, the government inspection rules require all boats to come up to a certain standard; but outside of these regulations a boat may either be maintained in good order or otherwise. In New York the big ferries are ill-kept, dirty, and do not have the best accommodations. It is the same at Cleveland, but the Detroit boats are always clean,

neat, freshly painted, provided with everything for the convenience of the traveling public, and ready to cater to any new needs of the same." Surely the local inspectors never intended to throw this dirty back-water at other ports. Let all hands think they have been misquoted.

BUFFALO.

Special Correspondence to The Marine Record.

The smallpox scare has led the Northern Steamship Co. and other large lines out of this port to order all of its men to be vaccinated.

The House Committee on Commerce, on Tuesday, acted favorably on a bill appropriating \$25,000 for the purchase of a site and the establishment of a marine hospital at this port.

Capt. Stewart of the North Star, who was suspended last fall on account of the Seimens-North Star collision, will resume command of the North Star May 24, that being the expiration of his suspension.

Mr. Fred P. Gordon, who has been prominently identified with lake insurance matters for several years, has been appointed Great Lakes representative of Hayward & Wrecks of New York. He will have charge of their general insurance and adjusting business.

Two barges, the Kathleen Bawn and the Rory O'Moore built in 1897 were assigned official numbers this week by the Bureau of Navigation, Treasury Department, Washington, D. C. These barges being built three years ago how is it that they have not been officially recognized as U. S. tonnage before this late date.

The numerous friends of Mr. W. I. Babcock are sorry to hear of his resignation from the presidency of the Chicago Ship Building Co. and intended departure from the lakes next July. It is possible that Mr. Babcock desires a wider field and that we will soon hear of him building naval and ocean tonnage at one of the largest coast shipyards.

Buffalo is getting the go-by on grain. Erie is blockaded, Fairport has all she can take care of, and also the Georgian Bay route. Is it railroad rates, strikes, or Buffalo elevator charges?—Buffalo Commercial. It is more likely the result of the contest among rival trunk lines for long haul business.—Buffalo Courier. I wonder if the unimproved Erie canal has not something to do with it also.

Civil Engineer George A. Ricker has finished the survey of the river front property of the Buffalo Dry Dock Company and the map which he prepared, showing the possibility of locating on the property a 600-foot dry dock, is in the hands of the officials of the American Ship Building Company at Cleveland, the recent purchasers of the property. It is settled that the large dock will be built, but all the details are not yet worked out. The dock will be a diagonal cut through the present site.

The grain shovellers are well satisfied with the operation of the present system of handling grain. The work is progressing smoothly under the direction of Supt. Kennedy. The men receive every dollar they earn, and get their wages in cash the moment their pay is due. Since the opening of navigation four weeks ago, there has been elevated 23,000,000 bushels of grain in this port. The average number of men working during the four weeks has been 1,000, and the pay roll amounted to \$46,000. In other words, each man received \$46 or \$11.50 a week, with his Sundays off.

Freight handlers are disposed to "raise Cain" and order all branches of the International Longshoremen's Association to cease work here and at other lake ports. The president and secretary of the association are at this time adverse to such radical action being taken until all other plans fail for the abolition of the stevedore system. The dock-wallopers want every cent paid for handling cargo, and won't stand for any stevedore rake-off. According to their agreement with the Lake Carriers' Association it is difficult to see how the grain handlers can refuse to work, however, the union is absolute in its rulings, and whatever it says goes.

Coal shipments last week amounted to 85,500 tons, of which Duluth-Superior took 33,500 tons, Chicago 26,000 tons, and Milwaukee 18,000 tons, the rest was scattered in 1,000 ton lots over several ports, about 14,000 tons was bituminous. The price of fuel is kept up to \$3.00 or 25 cents higher than at Ohio ports, and the loading firms always want to fuel the boats they charter, just as they insisted on doing formerly, thus making about fifty cents on each ton of fuel given to the boat. A charter ought to be a clean and separate transaction without any strings tied to it, nor should the shipper try to mulct the vessel owner in any such a penalty as paying two prices on his fuel.

The Maytham Towing & Wrecking Co., has been handling considerable tonnage owned by Capt. James Davidson this week, and all hands are guessing what it means, as Capt. Davidson is a heavy stockholder in the syndicate known as the Great Lakes Towing Co. Capt. Charles Maytham, manager of the opposition line, also with tugs at several lake ports and having a strong fleet here, is mum, he will neither deny nor affirm one thing or another, at the same time it is evident that he has secured some of Capt. Davidson's patronage. It is said that Capt. Davidson's boats were treated shabbily at Duluth, and this may have something to do with the Maytham line getting the work. If the Great Lakes Towing Trust try to hornswoggle Capt. Davidson in any way he will no doubt do his own towing, for he is just that sort of a man. Moreover, he is too wealthy and practical a man to be chased around by novices at the business.

CLEVELAND.

Special Correspondence to The Marine Record.

The Lake Erie Navigation Co. announces that it will run its first boat over to Rondeau and Port Stanley June 1.

The schooner Fontana and the steamers F. E. Spinner, Henry J. Johnson and Mariposa were dry docked this week.

Capt. C. H. Westcott, Detroit, visited this port on Monday and attended the meeting of the Lake Carriers' Association.

A meeting of the board of directors of the American Ship Building Co. was held on Saturday, at which routine business was transacted.

Longshoremen now think that they should take the work of grain handlers away from the old reliable contractor and stevedore, Martin Conners.

The little brush which the new steamer John W. Gates had with the Mariska in Whitefish Bay, on her maiden trip, cost several days detention and an outlay of as many thousand dollars.

Mr. Robert Wallace and Mr. James C. Wallace, with their families, left here on Monday on a trip to the old country. The shipyards, engine and machine shops, etc., will be gone over during their visit.

There has been some detention of vessels this week at the coal docks, though the supply by rail has been fairly good, chartering and loading has been brisk with freights holding steady at last week's quotations.

C. H. Keep, Esq., secretary of the Lake Carriers' Association, was instructed at the meeting held here on Monday to make arrangements for conveying the Congressional River and Harbor Committee on a tour of the lakes.

The steel steamer Wm. Castle Rhodes, built at the Lorain yards of the American Ship Building Co. and hailing from Cleveland, is 2,176 tons gross and 1,340 tons net. She was granted an official number by the Bureau of Navigation this week.

Buffalo parties are in the market for a package freight carrier. A Cleveland manager was asked to name a price for a charter for the balance of the season for a steamer to be used in that trade. The boat that is wanted is at present in the ore trade.

The Gen. O. M. Poe, Duluth to Cleveland, was reported with a case of smallpox and the marine hospital people were waiting to quarantine her on arrival. The Poe proceeded on to Ashtabula where she discharged her cargo. No smallpox case was found aboard of her.

Capt. John W. Moore returned to port on Tuesday after enjoying a fishing trip on his yacht. Fish dropped 2 cents per pound on the market after the captain distributed the 500 pounds of elegant black bass among his numerous friends and associates. Go it again Capt.

Mr. Quincy Miller, boiler maker and sheet iron works, 110-112 Elm street, leaves for an eastern tour in a few days. Mr. Miller will visit Sparrows Point, Md., New York and Washington, D. C. The trip is a business one combined with pleasure, as he will be accompanied by Mrs. Miller.

Capt. James Corrigan has bought the schooners Marion Page and Charles Foster and will bring them back from the coast, where they were taken by the Atlantic Transportation Co. a couple of years ago. The schooners Georger and Moonlight will also be brought back. They are owned by J. C. Gilchrist.

In the office of the Cleveland & Buffalo Transit Co. there has recently been hung an embossed copy of the resolutions given by that company to Capt. John Edwards, who quit the line last year, and is now in Liverpool. The resolutions gave Capt. Edwards free transportation for himself and wife to Liverpool and return.

The tugmen at Duluth now agree to let the master of a vessel decide whether he is to engage one or two tugs to tow or move his craft. They made a rule among themselves that all large tow barges should pay for two tugs, but, having had a squabble about handling Capt. Davidson's schooners, they have given up the point.

The steamer Lafayette, being built at the Lorain yards of the American Ship Building Co., for the Pittsburgh Steamship Co. (Carnegie), will be launched Thursday, May 31, at 2 p. m., standard time. Elaborate preparations are being made for launching the boat and a large party of Pittsburgh people will witness the launch.

Commencing Sunday, May 27, the Cleveland & Buffalo Transit Co.'s steamers City of Buffalo and City of Erie will depart and arrive daily. The popular Saturday night, returning Sunday night, Niagara Falls and Buffalo excursion rate will take effect Saturday, May 26, and remain in force during the balance of the season.

It is with much pleasure I learn that Mr. Robert Logan, naval architect and consulting engineer, is again at business after undergoing a very severe siege of illness. There are few men in marine circles held in higher esteem than Mr. Logan, and congratulations on his final recovery were simply showered upon him from all sides.

John C. Joll, formerly foreman of the Cleveland Dry Dock Co., has started in business for himself at 45 Main street, and does a general jobbing trade as ship carpenter, calker and spar maker. During the spring he made extensive repairs on the Massachusetts, Hiawatha, John Martin, S. P. Sheldon, Fred Kelley, Negaunee, Smith and Post, and the Chauncy Hurlbut.

Capt. George P. McKay, treasurer and chairman of the committee on aids to navigation of the Lake Carriers' Association, received a letter from Capt. Andrew Hackett, of Amherstburg, on Monday, stating that Capt. Dunn, master of the Dominion fishery cruiser Petrel, would take the southeast shoal buoy there for repairs and that he would place a spar buoy on the shoal. Capt. Hackett did not state how long it would take to repair the gas buoy, which was damaged by a passing steamer.

Chairman T. E. Burton, of the River and Harbor Committee, forwarded a telegram this week to W. S. McKinnon, stating that the appropriation bill passed by the House last Friday carried with it a special appropriation for dredging at Ashtabula. Mr. Burton expressed the belief that the bill would pass the Senate in a few days, in which event money will be forthcoming for immediate dredging of the sand bar at the mouth of the piers, which is now impeding navigation. Senator M. A. Hanna has large dockage interests at the harbor, and he will no doubt do all in his power to hasten the passage of the bill.

Action could be taken by private parties at Ashtabula harbor and the bar at the end of the piers dredged away. Several vessels grounded there this week, caused great expense and detention. The district engineer could possibly make such representations to the chief of engineers that the latter through the Secretary of War might be authorized to expend so much of the emergency fund as was found necessary to open the port to all classes of tonnage. It is too bad that cargoes consigned to Ashtabula must seek other ports of discharge solely on account of the lack of a little easy dredging being done. A scant 17 feet could not be carried inside the piers.

There seems to be something like a battle of the giants going on between the Rockefeller and Carnegie interests with the product of iron ore and lake freights as the prize to work for. It is stated that: "The idea of Mr. Rockefeller in maintaining the rates is not altogether to benefit the individual owners. Behind it all is a desire to even up matters with the Carnegie Steel Company. Last fall when the contract rate for the year was being made, Mr. Rockefeller went on the market and chartered every boat that he could get hold of at \$1.25 a ton for the season to carry ore. In this way he took care of the ore that is to come down at the contract rate, and besides he has upwards of 2,000,000 tons carrying capacity to the good for which he has no employment. For the last few years also he has had a contract with Carnegie to carry down the lakes annually 1,500,000 tons of ore at the average going rate of the season. In 1898 Carnegie gained the upper hand on the market and forced this rate down. His effort to do the same thing last year resulted in Rockefeller forestalling him and making a rate which was better than 100 per cent. in advance of what it was during 1899. In order to carry out this idea and to make the victory complete, Mr. Rockefeller is now maneuvering his tonnage in such a way as to prevent the rates being broken, thereby forcing down the going rate. He will do this even if it means that a portion of his boats must lie idle for a trip or so." And so the merry war goes on with the big fellows.

CHICAGO.

Special Correspondence to the Marine Record.

The schooner Bertha Barnes was in dock this week for inspecting bottom, the sloop yacht Charlotte R, and schooner yacht Nomad were in and had their bottoms painted.

The small steamer May Graham, 90 tons net and gross, built at St. Joseph and hailing from Grand Haven, was given an official number by the Bureau of Navigation, Washington, D. C., this week.

The H. W. Williams line passenger and freight steamer H. W. Williams will commence to run between Chicago and South Haven in the excursion business June 2. Their side-wheel steamer Darius Cole will start out about two weeks later.

On Monday grain freights ruled at 1½ cents on wheat, 1¾ cents on corn, 1½ cents on oats to Buffalo, 1¼ cents on corn to Port Huron, 3 cents on wheat to Kingston. On Tuesday several charters were made for corn to Buffalo at 1¼ cents.

The tug Munson, owned by Lyddon & Drews, was sunk by an unknown steamer while lying at her dock in the north branch of the river last week. Her owners have raised her and she is now in the Great Lakes Towing Co.'s floating dry dock for repairs.

The steamer Albert Soper which went ashore in a fog last week near the Lake Michigan entrance of the Summer Island Passage in Green Bay, was released by the wrecking tug Monarch, and went to Manistique and loaded a cargo of lumber for Chicago, arriving here on Monday.

Johnson & Knudson, shipbuilders, did some repairs on the steamer P. P. Pratt comprising new beams aft of boiler house, new wood and iron coamings around the boiler house and 1,000 feet of new deck aft. They are erecting three chutes at Hines Lumber Co.'s dock for fueling that company's steamers.

Regrets are heard in marine circles at the resignation of Mr. W. I. Babcock from the presidency and general management of the Chicago Ship Building Co. According to present intentions it is likely that he will leave the lake region entirely. His resignation is to take effect July 1, and the least that can be said is that the lakes loses one of its best and most progressive ship and engine builders.

The Perley-Lowe Co., of Chicago, has purchased the season's cut of the Peshtigo Lumber Co., which amounts to between 25,000,000 and 30,000,000 feet. The deal was negotiated by Isaac Stephenson for the Peshtigo Co., and Perley-Lowe. The consideration is about \$400,000. This disposes of the last big block of lumber in the Marinette district.

The Goodrich Transportation Co.'s steamer Indiana has been placed on the Chicago, Grand Haven and Muskegon route. The company's steamer Iowa will be put on that route on Wednesday, May 30, and their steamer Atlanta two weeks later. The steamer Virginia will commence running Saturday, June 2, between Chicago and Milwaukee, the side-wheel steamer Chicago will also come out on that date, and the steamer Christopher Columbus on June 23.

The Graham & Morton Transportation Co.'s steamer City of Chicago arrived here on Saturday from St. Joseph and Benton Harbor on her first trip this season. She has been refitted and refurnished and alterations have been made which are decided improvements and advantages to the traveling public. The clerk's and purser's offices and the ladies' cabin and staterooms on the main deck aft have been taken out and the space has been fitted up as an auditorium, where passengers will be entertained with a vaudeville show and music during the trips from shore to shore. The size of the promenade deck has been increased by cutting 30 feet off the saloon cabin at each end, the staterooms done away with by the change having been replaced by the erection of a double row of staterooms on the hurricane deck just abaft the pilot house. The promenade on the hurricane deck has also been increased by setting back the pilot house 30 feet. The steamer is lighted by incandescent lights and she is in first class condition for her season's work.

FLOTSAM, JETSAM AND LAGAN.

The striking freight handlers at Ludington, after being out 21 days, go back to work for 20 cents an hour.

The amount of lumber handled at Tonawanda this year is considerably larger than it has been for the same time in many years past.

The whaleback towbarge No. 137, stranded last fall on the north shore of Lake Superior, was floated, and arrived down all well at Lorain this week with her cargo.

W. I. Babcock, president and general manager of the Chicago Ship Building Co., has resigned owing, it is said, to disagreement with other officials of the company.

Lively competition is going on between the Pere Marquette and Crosby lake lines. Rate cutting has commenced and both lines have dragged their railway connections into the fight.

The Senate Commerce Committee has ordered the maintenance of lights on the Canadian shore at a cost of \$6,000, which item has previously been borne by the Lake Carriers' Association.

The Rev. Francis A. Gould, pastor of St. Mark's Episcopal church, Marine City, is first mate on the ferry steamer Primrose at Detroit. He leaves his pulpit for the river service every season.

A report from Philadelphia states that the Anchor Line will immediately commence the building of six new steamers with the intention of entering the general lake business in competition with other big lake lines.

Capt. John Lowell, of West Bay City, died at the home of his sister last Thursday of cancer of the stomach. He sailed the lakes for many years and was well known among vesselmen. He spent a year in the Klondike region.

The dock men employed by the Minnesota Iron Co. at Two Harbors were recently surprised at a raise of wages. Day men were raised from \$1.65 to \$1.90 a day, and night men from \$1.75 to \$2.15. Overtime is paid at the rate of 25 cents an hour.

Congressman Selden has succeeded in securing the establishment of a Weather Bureau Office at Houghton, Mich. Secretary Wilson, of the Agricultural Department, has so notified him. It is likely that the office will be gotten under way about July 1. It is considered of importance from a marine point of view, as the office will be the most northern one on the chain of the lakes.

The United States steamboat inspectors at Chicago, Messrs. Moore and Richardson, perpetrated a genuine surprise this week on the officers of all passenger steamers by making sudden calls on their craft to ascertain whether or not the steamboat laws in regard to the drilling of ships' crews for quick, efficient, cool work in case of disaster or fire are being complied with. Most of the steamers passed through the test satisfactorily, but several delinquents were discovered.

South Chicago has now twelve grain elevators, three of them being operated this season. One of these received its first grain this week. Bartlett & Frazier have three, Counsellman two, Peavey two, McReynolds one, Merritt one, and the Calumet Grain and Elevating Co. one. Chicago has twenty-seven elevators. The Indiana and one or two others have been shut down most of the season thus far. Shipments of grain from South Chicago has been heavier for the past several days than from Chicago and the former port is taking the trade away from Chicago river so quickly that farther river and harbor improvements, breakwaters, light-houses, life-saving stations, costing the country millions of dollars, will hardly be of any future use at Chicago. Only the smaller and medium sized craft can now use that port, and then they must take chances of being handled in a narrow sluiceway with a current like a mill race, owing to the enormous flow of water required for the drainage canal.

THE COLLINGWOOD SHIPYARD—THE CRAMP ONTARIO STEEL CO.—FACILITIES FOR SHIPBUILDING.

Letters patent have just been issued by the Ontario Government incorporating the "Cramp Ontario Steel Co., Ltd.," with a capital of \$5,000,000. Two of the Philadelphia Cramps (Charles D. and William M.), late of the William Cramp & Sons Ship Building Co., Philadelphia, Pa., are on the directorate. It is understood that arrangements have been completed for the flotation of the company in the United States, and that building operations will commence at Collingwood, where the mills are to be located this summer. The town of Collingwood has granted a bonus of \$115,000 and a free site of 50 acres on the harbor, with water lots, wharf privileges and other terminal facilities.

It is the intention of the company in conjunction with the Collingwood Ship Building Company and the Collingwood Packing Company to explore for natural gas around Collingwood, with a view to securing cheap fuel. Prospects of success are good, as one well has been supplying a house in Collingwood with light and fuel for some 15 years.

The steel company intends erecting a first-class modern steel plant, consisting of one 250-ton per diem blast furnace, casting machines, three open-hearth furnaces of 30 tons capacity each, a blooming mill, and a rolling mill, capable of rolling structural steel, rails and sheets for shipbuilding and boiler purposes.

It is also understood that the company are securing 5,000 acres of coal lands in the coking regions of Pennsylvania, and West Virginia, and that they will make their own coke, so as to be independent of the American combines with respect to fuel.

Capt. McDougall, of whaleback fame, is at present erecting at Collingwood, along with local capitalists, one of the finest steel shipbuilding plants on the Great Lakes, and this yard will furnish a market for a portion of the output of the steel plant.

The company have the offer of an ore supply for all their requirements for five years from Canadian iron mine owners.

It is understood that several prominent Canadians will be associated with the Cramps on the Board of Directors, so that the company will be to all intents and purposes a Canadian company.

The province of Nova Scotia is also fully alive to its shipbuilding advantages in connection with the modern steel plant recently established there, mainly by American capital, and it appears that, at the session of their legislature, recently prorogued, an act was passed for the encouragement of shipbuilding and manufacturing. Its provisions are: "On and after the first day of May, 1901, all machinery, stock in progress of manufacture and manufactured, plant and tools in actual use in any establishment in the province of Nova Scotia, established for the manufacturing of ships of iron or steel, or any combination of metals of like character, or for the manufacturing in iron or steel, shall be exempt from taxation for any purpose excepting for school, sewer or water rates, but said manufacturing establishment shall pay in lieu thereof a license fee equal to 1 per cent. of the assessed valuation of its real estate. All ships or shares in ships of iron or steel or any combination of metals of like character built and registered in the province of Nova Scotia shall be exempt from taxation for any purpose whatsoever for a period of ten years from the time this act shall come into force in any town, city or municipality."

PISCICULTURE.

Senator McMillan, of Michigan, has introduced a bill for the establishment of a station on the Great Lakes within the borders of Michigan, to aid in diffusing information concerning the fish of the lakes, and to conduct investigations into the life surrounding these fish, so that there may be a scientific basis for solution of the fisheries problem of the lakes. The station is to be under the direction of the board of regents of the University of Michigan, which is empowered to appoint a staff for the station, consisting of a director at \$4,000 a year, a superintendent at \$3,000 a year, and as occasion may require such scientific assistants and other helpers as required. An appropriation of \$30,000 is carried in the bill.

THE Bureau of statistics at Washington has issued a supplementary manifest for vessel masters sailing the Great Lakes, its purpose being to gain such information as will enable it to compile accurate statistics of the commerce of the Great Lakes.

PRAISE FOR MAJOR SEARS, U. S. A.

Major Clinton B. Sears, Corps of Engineers, U. S. A., is paid a handsome tribute in the Duluth Tribune of Michigan of May 4, for his work in connection with the Duluth ship canal, by Senator F. B. Dougherty, who, among other things, said: "I consider that the Duluth ship canal piers constitute the greatest piece of engineering work along that line to be found anywhere in the country. I do not believe that the people of Duluth are yet fully aware of the debt they owe Major Clinton B. Sears, for the care and skill he has exercised in the making of this improvement. And back of that is the beginning of the obligation, when he recommended that the piers be rebuilt. The business like manner in which Major Sears handled the awarding of contracts for dredging under the continuous contract system saved to the government a very large sum below the estimates. He thereupon recommended that with this excess money the government undertake the construction of permanent piers at the Duluth ship canal. The piers will be a monument to Major Sears's engineering skill and pains-taking devotion to having the work done in a thoroughly workmanlike manner. Before these piers are finally completed there should be a fine tablet placed at some conspicuous place in the work, giving a history of the piers and full credit to the engineer in charge of their construction." It has been suggested that Major Sears should drive the last spike, or perform the last act of labor on the piers, whatever that may be; that notable people should be invited there on that occasion and that speeches should be made, to be followed by a banquet in honor of Major Sears.—The Army and Navy Journal, New York.

LAUNCH OF THE STEEL STEAMER HARVARD.

The steel built cargo steamer Harvard, built to the order of the Pittsburg Steamship Co., (Carnegie Line) was successfully launched from the Wyandotte yards of the Detroit Ship Building Co., on Saturday, May 19.

The Harvard has been built for the iron ore trade, and is of the following general hull dimensions, 478 feet over all, 50 feet beam and 28 feet in depth.

Miss Lillian Taylor, the 14 year old daughter of Mr. Charles L. Taylor, assistant to the president of the Carnegie Steel Co., had the honor of christening the large new boat. Among those present at the launch were Mr. and Mrs. Chas. L. Taylor, Mr. and Mrs. H. C. Torrence, of Pittsburg; Mr. Edwin S. Miller, general manager of the line at Cleveland; also Mr. Francis B. Smith, shore engineer of the Pittsburg Steamship Co., also of Cleveland, and Mr. N. S. Carpenter the Detroit representative of the company; the builders, with the principal officers, a large number of Detroit marine people witnessed the launch of the largest steamer ever constructed by the well and favorably known Detroit shipbuilders.

It is expected that the Harvard will be ready for loading in about one month.

LAKE FREIGHT RATES FROM TOLEDO TO BUFFALO ON WHEAT.

The following statement shows the ruling rates of lake freights on wheat from Toledo to Buffalo during the season of 1899, on the dates specified, as compiled by Denison B. Smith, secretary of the Toledo Produce Exchange:

Wheat and Corn, bu.	Wheat and Corn, bu.
Cents.	Cents.
Opening to Oct. 24th... 1	Nov. 1 to close of season... 1½
Oct. 24th to Nov. 1st... 1¼	
The range for 1886 was 1¼@3c.; for 1887, 2¼@3c.; for 1888, 1½@2½c.; for 1889, 1¼@2c.; for 1890, 1½@2c.; for 1891, 1@3c.; for 1892 1½@2½c.; for 1893, 1@2c.; for 1894, 1@2c.; for 1895, 1@2¼c.; for 1896, 1¼@1¼c.; for 1897, 1@1¼c.; for 1898, 1@1½c. per bushel.	

CORROSION OF MARINE BOILERS.—Institution of Civil Engineers, London, February 27, John Dewrance. The speaker said that setting aside the fatty acids which should never be admitted to boilers, the only cause of corrosion that could, to any extent, affect the internal parts of a boiler which were not liable to be overheated, was the air dissolved in feed-water. Extensive experimental tests have established this. Marine engine builders have not exhausted all the means to be commanded for the exclusion of air. It is of first importance to the boiler that the water be returned from the condenser to the boiler without allowing it to dissolve air. The air pump is the most efficient aid and the speaker suggested placing the hot-well between the condenser and the air pump, making it a separator of steam and air.

INCREASING SPEED OF OCEAN LINERS.

EDWARDSVILLE, KAN., May 21, 1900.

To the Editor of The Marine Record:

In reply to the article under this heading quoted from "Modern Machinery," in a recent issue of the RECORD, permit me to say that undoubtedly the writer speaks the truth when he explains that it has occupied a space of sixty years to develop the present rate of speed now attained by the improved methods of propulsion, and that unless some further radical improvement in the machinery of propulsion occurs, no important increase of speed can be attained. Great and wonderful improvements in marine engines have been made from time to time, representing many thousand horse-power, but the difficulty of applying the power has been the obstacle, various forms of rotary motion have been used, always resulting in dividing the power in the application, the screw propeller having from 3 to 4 blades dividing the power into three or four parts, and often triple or quadruple screws are used, thus increasing the division to 12 or 16 parts at a great expense of power, with little or no increase of speed.

On the second anniversary of the battle of May day when Admiral Dewey changed the table of the comparative strength of the navies of the world, there was issued by the patent office at Washington, a patent for a device for vessel propulsion which bids fair to revolutionize the navigation of the world, it is the invention of a Kansas man, a machinist of long experience, and for nine years past a farmer near Edwarsville, Wyandotte Co., Kan. The device consists of guides and crossheads located fore and aft of the center of the vessel, on both sides, the guides being similar to those used on a locomotive but longer, the propellers are mounted on the crossheads and carried backward and forward by an arm connected to a crank, by which a reciprocating motion is imparted to the crossheads, the propellers, four of which are used on the vessel, 2 on each side, are made to move in opposite directions. Simultaneously when the vessel is at rest, the propellers stand near the vessel's center, and when the machinery is started the rear propeller moves toward the stern with its wings spread, applying the outward stroke of the engine at the same time the forward propeller moves toward the bow with its wings closed and cutting the water and offering but little resistance, both propellers reach the opposite ends of the guides at the same time and at the return stroke they both start toward the center of the vessel, the action of the water closing the wings of the rear propeller and opening those of the front automatically, thus two of the propellers are applying the power of the engine urging the vessel forward constantly and steadily and smoothly. One of the important points in this device is that any length of stroke desired can be applied by making the crank any desired length; thus, a crank for a large vessel, the cranks being ten feet from center shaft to center of wrist would describe a circle of twenty feet, thus the cranks would impart a stroke of twenty feet to each of the propellers, thus a driving stroke of 40 feet would be applied at right angles to the vessel, and the propellers being of sufficient size to move the vessel forward without any slip or backward movement of the propeller, a clear forward movement of 40 feet is imparted to the vessel at each full stroke of the engine. Expert engineers who have examined the plans and specifications say that the textile strength of the material used in construction and the judgment of the commander of the vessel will determine the speed attained by this system. A locomotive having a drive wheel of the size in diameter of the cranks above mentioned, viz. ten feet, would measure a distance of 30 feet on the rail at each full stroke of the engine, thus it will be seen that a gain of one-fourth over the travel speed of the locomotive is obtained by this new and lately patented device for vessel propulsion mechanism. Yours truly,

MODERN PROPULSION.

HYDROGRAPHIC OFFICE NOTE.

LAKE ERIE—BUFFALO APPROACH—SUNKEN WRECK SOUTHWARD OF WINDMILL POINT.—The sunken schooner Thomas L. Howland, loaded with coal, lies in about 40 feet of water off Windmill Point, on the following approximate bearings:

Windmill on Windmill Point N. 10° 30' E. true (N. by E. ¾ E. mag.), distant about 2 (2¼) miles.

Buffalo Breakwater fog signal station N. 62° E. true (N. E. by E. ¾ E. E'y mag.).

The schooner is a serious danger to navigation, but she will be raised as soon as practicable. Her lower mastheads and topmasts are out of water and she is heading S. S. E.

No, Maude dear, when a vessel lays to it has nothing to do with the hatchway.

ATLANTIC EXPRESS STEAMERS OF THE FUTURE.

The steamer Deutschland, of the Hamburg-American Line, which will make her first trip during the present month, will, if everything turns out as expected and guaranteed, be the fastest transatlantic liner afloat. Twenty-three knots, equivalent to about 26½ miles, are to be the average hourly speed across the ocean, and that means that she will easily beat the record of the North German Lloyd steamer Kaiser Wilhelm der Grosse, which has to her credit a maximum of 22.63 knots, or a small fraction over 26 miles an hour. But, according to the latest accounts, these remarkable performances are to be totally eclipsed by a new ship which the North German Lloyd Co., is said to be getting ready to build, and which, in point of size, too, will go beyond anything hitherto in service. Seven hundred and fifty-two feet are to be the length, and twenty-four knots, or 27.6 miles, the minimum speed of this vessel, and her indicated horse-power is to run up into the neighborhood of 40,000. Five days and seven hours will be the time of transit between Southampton and Sandy Hook. It is worth noting, apropos of this, that only a few years ago the Atlantic express steamer was declared to be an unprofitable adjunct of the steamship business, and that before long there would be a settling down to the building of moderate-speed ships of large carrying capacity, from which alone satisfactory financial returns could be expected. That there is a maximum efficiency combination of steaming speed and useful carrying capacity which is considerably at variance with what is found in the so-called Atlantic greyhound, has been pretty well determined; but, after all, the matter of profitable running is simply a question of rates for carriage, and these rates on the highest speed ships evidently are high enough and are paid in sufficient numbers to make the ships profitable. At any rate, the development of the ocean express service is going on apace, and what were once considered wild predictions of 1,000 foot steamers and 30 knot speeds across the Atlantic now appear to be pretty close to realization.—From Cassier's Magazine for June.

FOUNDED TWO CENTURIES AGO.

We have received a beautifully illustrated pamphlet containing particulars, prospectus and subscription blank from the Detroit Memorial Committee and stating that the citizens of Detroit, Mich., propose to erect a magnificent monument to commemorate the 200th anniversary of the founding of the city. The design includes a Doric column of 24 foot base, to rise 220 feet above the Detroit river, making it the tallest in the world; this will be surrounded by groups of sculpture within the court of a marble colonnade nine hundred feet long. The cost will be one million dollars and subscriptions are to be paid in before July 1, 1901. Among the honorary chairmen is the Hon. Russell A. Alger, ex-Secretary of War. Col. G. J. Lydecker, C. E., U. S. A., is a member of the Memorial Committee.

It is to stand on the lower end of Belle Isle, the island park which lies midway between the American and Canadian banks of the river, and will be a thing of beauty by day and a beacon of light by night. Among the six \$25,000 subscriptions is one given by Charles M. Freer in memory of Gen. Orlando M. Poe, "to whom," as the donor said, "more than all others we owe the commercial greatness of the navigable lakes." The audience gathered at the meeting in endorsement of the proposed memorial was so in sympathy with the statement expressed by Mr. Freer that the very trusses vibrated with the cheers, and the enthusiasm was increased by the well worded reply of appreciation by General Alger on behalf of Mrs. Poe. The givers of the five subscriptions of twenty-five thousand dollars were General Alger, Senator McMillan, Colonel Hecker, Mr. James E. Scripps and Mr. D. M. Ferry. The island on which this column is to be placed was formerly the property of the daughters of the lately deceased Richard Storrs Willis, the wives of three naval officers. Comdr. Emory, Lieut. Comdr. Ward, and Lieut. Broadhead. The sale of it to the city added a half a million of dollars to their already large dowers.

JAMES J. HILL, president of the Great Northern road, is authority for the statement that the approaching exhaustion of the pineries of the middle west would result in such a tremendous demand for Washington timber that the present transcontinental railway system would be unable to handle it. This in conjunction with the opening up of the Pacific commerce, he said, would give Washington a population of 5,000,000 and Seattle a population of several hundred thousand at a date not far in the future.

THE LAKE SUPERIOR REGION.

Lieut.-Gov. O. W. Robinson, of Chassel, in a recent interview, gives the following description of the timber yet remaining in the Upper Peninsula of Michigan.

"Of fine timber there is but a limited amount standing, mostly in the counties of Chippewa, Luce, Alger and Schoolcraft, with still a small amount left upon the headwaters of the Menominee. Pine tributary to the Sturgeon river, Ontonagon river and Keweenaw bay having been nearly exhausted, the lumbermen of these regions are turning their attention more to hemlock and hardwood as the future supply of their mills. The amount of hemlock tributary to the Ontonagon and Sturgeon rivers and Keweenaw bay is largely in excess of the pine that originally stood on the same tract of land. Tributary to the Sturgeon river as an outlet, there is standing to-day at least 400,000,000 of good hemlock, and equally as much more along the shores of Keweenaw and Huron bays. A stretch of country running back from Chassel in a southwesterly direction to near Greenland, in Ontonagon county, a distance of fifty miles by fifteen miles wide, is almost an unbroken hemlock forest, a portion of which is tributary to the Sturgeon river, the balance tributary to the railroads traversing that country. North and east of L'Anse, stretching through to Arvon, in Baraga county, is another large tract of hemlock, which has been encroached upon but very slightly. Other sections of the country contain large tracts of standing hemlock. There is also more or less cedar throughout the forest of the whole Upper Peninsula. In the more southerly counties the cedar has been very largely cut, but in the northern and western counties the cedar in the swamps is still standing. Of the hardwood forests, they are generally found along the mineral ranges. Along the line of the recently constructed Copper Range railroad, from Houghton to Mass City, in Ontonagon county, a distance of forty miles or more, there exists a stretch of almost solid maple forests varying from six to eight miles along the mineral range. The same can be said of other sections of the country along the iron range farther south. It is difficult to estimate the amount of merchantable lumber contained in our hardwood forests, but its value, if properly handled and not allowed to become the prey to forests fires, would reach into the millions of dollars. Scattered throughout nearly all the forests of the Upper Peninsula there exists a greater or less quantity of the finest of yellow and black birch to be obtained in the northwest. This timber is very valuable, but owing to its great weight it cannot be floated down our streams, therefore, it is very difficult to get it into the market until such time as we shall have better railroad facilities for transporting it to the mills. Up to the present time there has been very little attention paid to the manufacture of hardwood lumber, but as the limited supply of pine is exhausted, our mills throughout the Upper Peninsula will turn their attention, not alone to the manufacture of hemlock and hardwood lumber, but also to the manufacture of hardwood products, such as to-day are being manufactured in other sections of the country where their hardwood forests are becoming depleted."

In Minnesota, on the northern shore of Lake Superior, there is still remaining a large amount of white pine, somewhat sparsely distributed over a wide range of territory.

In a recent interview, Hon. J. M. Longyear, the millionaire ex-mayor of Marquette, took the ground that the Michigan iron and copper districts had not only not seen their best days, but that they were only entering upon their industrial importance. Hitherto, he says, the ores have been so easily and cheaply mined that the very minimum of energy and the crudest appliances have been employed. As the easily mined deposits disappear, and the value of iron and copper increase, more energy will need to be put forth to reach and reduce the leaner ores. It is then that increased machinery will have to be brought forward and additional skilled labor employed, and the vast forests of the section will be brought into requisition as never before for charcoal, timber, lumber and the many uses incident to the growing industries. Instead of shipping almost all its product in the crude form of ore, Mr. Longyear holds that the future tendency will be to bring to that region mills and enterprises that will send the output away in a generally much more finished state.

SUSPENDED FROM DUTY.

The Secretary of the Navy has relieved Commander C. C. Todd from duty as hydrographer of the navy, and placed him under suspension.

This action is the direct result of efforts of the coast and geodetic survey to take the work of ocean and lake surveys from the navy.

It is confidently expected by Commander Todd and his friends that when the facts receive further consideration he will be restored to duty and proper steps taken to relieve his record of the stigma now resting upon it. Secretary Long decided to relieve Commander Todd as hydrographer pending a thorough consideration of the matter which related to the Commander sending out certain letters to the branch hydrographic officers. The commander had the support of the entire service in the course he has pursued. Secretary Long has under consideration the question of what further action, if any, shall be taken.

ADMIRAL DEWEY and Rear Admiral Hichborn express approval of the Holland type of submarine boats, particularly for coast defense, and for the moral effect such mysterious engines of warfare would exert.

SHIPPING AND MARINE JUDICIAL DECISIONS.

(COLLABORATED SPECIALLY FOR THE MARINE RECORD.)

Tug and Tow—Abandonment of Tow When Aground.—A tug which abandons a tow after she has grounded, leaving her in a position of danger, is liable for the injury resulting, of which the tug's negligence was a proximate cause. *The M. D. Wheeler*, 100 Fed. Rep. (U. S.) 859.

Navigation in Fog.—When a vessel in a fog, proceeding properly in other respects, hears a whistle slightly on either bow, it is not clear that the wheel should at once be put to port, as the whistle may be from a vessel going in any direction. *The Yarmouth*, 100 Fed. Rep. (U. S.) 667.

Steam Vessels Crossing.—One of two vessels crossing, which takes such precautions as will insure the safe passage of the vessel if both are properly navigated, cannot be held in fault for a collision resulting from the improper navigation of the other, which could not have been anticipated. *The America*, 100 Fed. Rep. (U. S.) 883.

Repairs—Liability of Part Owner.—In the home port, where all the owners reside, the managing owner, although registered as such in the custom house, cannot, merely by virtue of that relation, contract for repairs, and bind his co-owners to a personal liability therefor. *Woodall et al., vs. Dempsey et al.*, 100 Fed. Rep. (U. S.) 653.

Collision—Construction of Sailing Rules.—Vessel "Running Free."—A ship close hauled, and sailing within 6½ points of the wind, is not "running free," within article 17, subd. 3, of the navigation rules, and is the privileged vessel, where a crossing vessel is admittedly running free. *The Queen Elizabeth*, 100 Fed. Rep. (U. S.) 874.

Running Short-Handed and without Lookout.—The fact that a vessel was short handed and running without a proper lookout, though not decisive of a fault contributing to a collision, may be taken into consideration as bearing upon the probabilities of the case and raising a presumption against her. *The Albert Dumois*, 20 Sup. Ct. Rep. (U. S.) 595.

Rules of Navigation—Construction.—The rule applicable when two vessels are crossing so as to involve risk of collision, that the vessel which has the other on her starboard side shall keep out of the way, has no application to vessels coming around bends in channels which may at times bring one vessel on the starboard of the other. *The L. C. Waldo*, 100 Fed. Rep. (U. S.) 502.

Determining Fault—Evidence Considered.—Evidence considered, and held to show that a collision between two meeting steamers was due to the failure of one to make the turn to port at a bend in the channel with sufficient promptness after an agreement by signal that the vessels should pass to starboard, and to exonerate the other from fault. *The L. C. Waldo*, 100 Fed. Rep. (U. S.) 502.

Admiralty—Torts Committed on the High Seas—Action for Wrongful Death.—A suit in admiralty cannot be maintained in a court of the United States, either under the general maritime law or any act of Congress, to recover damages for the death of a person on the high seas which was caused by negligence. *Rundell vs. La Campagne Generale Transatlantique*, 100 Fed. Rep. (U. S.) 655.

Maritime Liens—Enforcement—Intervention after Sale of Vessel.—Where a vessel has been sold pursuant to a decree entered after due notice requiring all claimants to appear, and has been delivered to the purchaser, and the proceeds applied to the discharge of the debts allowed, the sale will not be set aside to permit another claimant to then intervene and prove his lien. *The Dode*, 100 Fed. Rep. (U. S.) 478.

Collision in a Fog.—A steamer proceeding in a fog in a narrow channel, where there was danger of meeting other vessels, at a speed of over eight knots through the water, and at more than seven over the ground, was negligent, and must be held in fault for a collision in which she was injured, unless it is clearly shown that the excessive speed could not have contributed thereto. *The Yarmouth*, 100 Fed. Rep. (U. S.) 667.

Penalty for Making False Claim.—Under 23 Stat. c. 121, § 10, as amended by 24 Stat. c. 421, and 30 Stat. 763, c. 28, § 24, which makes it unlawful to pay any seamen wages in advance, or to pay such advance wages to any other person, but permits a seaman to stipulate in his articles for an allotment of a portion of his wages, not exceeding one month's wages, to be paid to an original creditor in liquidation of any just debt for board or clothing which he may have contracted prior to his engagement, such stipulation to be inserted in the agreement, and to state the amount, times of payment, and the person to whom the payment is to be made, and which further provides that "any person who shall * * * make a false statement of the nature or amount of any debt claimed to be due from seamen under this section" shall be subject to a penalty, such penal provision applies only to false statements made for the purpose of establishing a claim against an allotment of wages made by a stipulation as provided in such section, and has no reference to false claims against seamen generally, from which they are protected by the provisions subjecting the master, etc., of either a domestic or foreign vessel to a penalty for making any advance payment of wages except under such stipulation. *United States vs. Nelson*, 100 Fed. (U. S.) 125.



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CLEVELAND, O., MAY 24, 1900.

AS WE have frequently pointed out, the decision of local steamboat inspectors, relative to infraction of the "Rules of the Road," and the cancellation or suspension of an officer's license, has not the slightest influence or bearing in the event of the casualty occasioning a law suit for damages, etc. This feature rules in other maritime countries also.

A POWERFUL overhead flexible steel wire cable, something after the style of the underground street car or tunnel system, might be found available to hold vessels in line when traversing Chicago creek. This is only a suggestion and it will take about eighteen more, before even the suspicion of applicability of a method to prevent damage can be listened to. Let everybody guess what to do.

THE Lake Carriers' Association is to be congratulated on its work in Congress, whereby an appropriation has been granted towards defraying the cost of necessary lights and aids to navigation not established by law, and hitherto met at the expense of the members of that body. Restitution should now be looked for and the outlay for previous years covered back into the treasury of the association.

IN reporting the foreign steamer Paliki, loading steel rails at Lorain for Sydney, N. S., the lake dailies made her hail from Sunderland, Scotland. Perhaps a braw Scot is skipper of her, but it is much more likely that a Geordie is chasing her around, in any case, we might as well leave Sunderland in the north of England where it always has been and is likely to remain, our lake dailies to the contrary notwithstanding.

AND now one of the several marine associations requests that the Board of Supervising Inspectors of steamboats should substitute the word "captain" for the word "master" and the words first and second officer instead of the words first and second mate, also that the word license should be changed to certificate. Well! this is splitting hairs with a vengeance. A barber belongs to the tonsorial profession, and an engine driver to the profession of engineering, but for shipmasters to ask to be captained legally and legitimately smacks rather of the soldierly strain, and consequently lubberly. Just to be in line in this particular, mates instead of being called officers might be termed first and second sergeants, or to make it still more handy and euphonious, first and second dickeys. No wonder the Board of Supervising Inspectors lose their bearings in the fog of conglomerate recommendations, counsel and advice offered them annually from outside sources. Their own idiosyncracies would keep the brain box of a Philamayork lawyer on the whirl, without the revolutions being accelerated by the lunatic effusions of other careless jokers.

THE CHICAGO RIVER—LAKE LEVELS.

Once more has the old saying, of locking the stable door after the horse had been stolen, been verified in the case of the Chicago drainage canal, aptly enough, the condition of the river and the odors arising therefrom, equaled in more ways than one the carelessly kept resting place of the equine.

For many years, however, traffic increased, and, as the narrow, tortuous, half solidified surface of the creek still permitted vessels to be waterborne, an increase of traffic was annually recorded, and periodical, if minor improvements, tended to accelerate and facilitate the commerce of the port, so that Chicago, even with its drawbacks, in the form of being an expensive port for vessels, was still considered a safe port to charter to.

The former conditions are now non-existent and a new order of things prevails, the still water of the narrow stagnant creek and its branches, hitherto jammed with vessels and center piers to support massive bridges at every block or two, is changed to a swiftly flowing, clear stream, and at no point are vessels permitted to lay several abreast for fear of impeding the stipulated flow of 300,000 cubic feet of water each minute during the twenty-four hours.

It has been stated, that the masters of lake steamers are at least susceptible of being charged with incompetency, inasmuch as they can't handle large steamers in the swift current of the narrow and winding creek, without incurring positive risks, and in some cases causing considerable damage to property, as well as absolute detention to the river traffic. In this connection, the RECORD most strenuously upholds the efficiency and skill of lake masters, engineers and pilots. Nowhere in the world are large, steel steamers handled with such a degree of confidence, safety and success than they are in the narrow passages, rivers and harbors that characterizes the customs of lake navigation and piloting.

Under the foregoing situation and conditions, the question naturally arises, what is the influential and powerful association of lake carriers doing in the premises? In answer to this enquiry, we find that the leading officers of the association are energetically and advisedly pursuing a policy which must redound eventually in protecting the common interests of the marine and cognate interests. In summing up the action now being taken, we find that the association is seeking immediate relief, through the Secretary of War, in the matter of levels and current in the Chicago river. With the co-operation of the trustees of the sanitary district it is believed that this prompt relief may be obtained without any unreasonable interference with the operation of the canal, which, unfortunately, but with a commendable desire to improve the health conditions of the City of Chicago, was fully opened before the compensatory works upon the river had been even considered. Furthermore, our readers are fully conversant with the desires of the association to obtain the appointment of an able commission to consider in a broad, liberal manner the entire question of artificial, industrial and other constructions in their effect upon the general levels of the lakes. Such seems to be, and is, the present aspect of the situation viewed from the standpoint of the Lake Carriers' Association, and there appears no doubt that both of these purposes will be pursued to a definite conclusion and for the best interests of all concerned.

THE Lake Carriers' Association has got the Chicago drainage canal trustees squirming like a lot of eels in trying to wriggle out of the dilemma in which they, the trustees, have placed the municipality, through rendering the Chicago river unnavigable. The trustees have now hit upon the bright idea that all the trouble from the current in the river is due to the incompetency of vessel masters, and on this ground will combat the recent representations of the Lake Carriers' Association made to the Secretary of War. This plea is not worth the breath required to utter it. Vessel masters can handle their vessels in any current that they can fairly steam against, and do it in the best style too; but, they must be given more room than the beam of their vessel to do it in. There may be, and in fact there is, a windy ignoramus to be found here and there, as in all callings, but these men have not the best commands and constitute the exception to the class. The lubberly notion indulged in by the trustees of the drainage canal, is born of ignorance, pure and simple. Inexperienced in the ways of handling a boat they attempt to measure and judge the skill of those who have no peers on the waters of the earth. When it is pointed out that lake masters and pilots are pushing boats from 300 to 500 feet in

length, with a 40 to 50 feet beam, through draws from 50 to 70 feet in width, he would be a perfect modern Annanias who attempted to cast a reflection on their ability to manoeuvre a hull, with the aid of a screw propeller, under the most adverse circumstances possible. The Hydrographic Officer at Chicago, culculated recently, that there would be but little trouble or danger, and that losses, accidents and collisions would be very rare after the men got used to the current. This statement may have induced the drainage trustees to entertain the notion of vessel masters being incompetent, however, we lose our guess if the Hydrographic Officer, U. S. N., would dare to pull a bell in Chicago, Cleveland or Buffalo creek if he had a 400 foot steel boat under his feet, and further, if he took the dare, the Lord pity center piers, wharves, docks, vessels in the vicinity and the tank he was in himself. No! You are on the wrong tack, Messrs. Trustees of the Chicago drainage canal, the steamboatmen of the lakes have nothing to learn in the method of handling boats in narrow waters, and least of all from sewer builders, trustees or directors, and occasional deep water naval officers.

MAJOR WILLARD, Corps of Engineers, U. S. A., the district officer stationed at Chicago in charge of the conservancy and improvement of rivers and harbors within that district, has been instructed by the Chief of Engineers to prepare regulations for the control and restriction of the current in Chicago river, etc., etc. Now, with all due regard to Major Willard's engineering skill, talent and eminent scientific proficiency, we have no hesitation in saying that the problem of regulating a flow of 400,000 cubic feet of water per minute, and an extra 20,000 cubic feet per minute for each additional 100,000 of population over the present census figures, is an engineering feat, which, of course, may be possible of accomplishment, but, let us say, not by any one man, and it looks very much as if the Secretary of War had a notion of staving off his responsibility in the matter by shouldering on to the district officer, through the Chief Engineer, such an inadequate proposition or suggestion. Chicago has the drainage canal opened, and on the theory that possession is nine points of the law, she is likely, after spending upwards of \$30,000,000 on the project, to keep it open. Of course the municipality or drainage canal commissioners for the sanitary district benefitted, must bow to the federal decree, but they will closely watch that no absolute decision is decreed, or at least, that nothing derogatory to their grand project for Chicago sanitation is permitted to obtain. In the meantime, it is not to be presumed that Major Willard can, or will, go much if any further than the late district engineer Major W. L. Marshall, Corps of Engineers, U. S. A., and he positively stated to the Chief of Engineers under date of April 24, 1899, as follows: "It is clear to me that I am not competent to make a recommendation as to what should ultimately and definitely be done." Now, the question arises, can one engineer, having an equal share of training, study and experience, rise so vastly superior, in a practical, technical or theoretical degree above his colleague, as to assume an autocratic, if not dictatorial position in the matter. We are absolutely certain that Major Willard's recommendations will be all that can possibly be expected, at the same time, we don't think that the Major should have been placed in the position which he now finds himself in connection with the safe navigation of Chicago river.

THE Shipmasters' Association, also the American Association of Masters and Pilots of steam vessels, as well as the Marine Engineers' Benevolent Association, ought to appoint counsel to look after the interests of their members whenever they get into trouble with the officers of the Steamboat Inspection Service. It is ridiculous for these large and influential bodies of skilled men to permit local or even supervising inspectors to damn their characters and take the bread out of their mouths through an unjust, ignorant or inequitable decision. The officers of these associations should see that their members are at all times fully protected, and this, too, from a technical and legal standpoint. Now let us see which of these organizations will be the first to make an annual appropriation from their funds as a retaining fee to be awarded to technically skilled legal counsel. If the position or character of a master, engineer or pilot is assailed, let his association see him clear through in professional and ship-shape order, otherwise, the banding together of these men lacks the prime essential of safe-guarding the interests of its members.

APROPOS of the recent decision of the U. S. Board of Supervising Inspectors of Steamboats, and their ruling at the last annual meeting, to re-examine all licensed officers at each renewal of license, we find the following in the lake shipmasters' annual:

"I am one of the many people connected with shipping who cannot see the necessity for re-examinations, at the expiration of five years, of the shipmaster who has been constantly engaged at his calling, and who must of necessity be a practical, first-class pilot. * * * These practical requirements exercised every day of the navigation season, should be a sufficient guarantee to the steamboat inspectors that the master once granted a license must steadily improve in the work in which he is engaged. * * * Let us hope that this new rule is not on account of the princely salary they receive." The omnipotent board will stultify itself in revoking or cancelling the law under cover of the authority of the Secretary of the Treasury, while to maintain it will be to brand themselves a bunch of nincompoops (if the supervising inspector of a nearby district can pass the word without rushing into print about it). The Brooklyn, N. Y., Harbor of the American Association of Masters' and Pilots' as well as several other harbors, report to the Grand Harbor as follows: "We ask you to instruct your committee to the Supervising Inspector-General to do all in their power to make null and void the rule or law whereby a re-examination must be taken by master or pilot at the expiration of their license. This Harbor considers this one of the most unjust, unreasonable and arbitrary rules or laws that is in the book." Wonder what that Board of Supervising Inspectors meet at Washington for, anyway, each year they perpetrate a series of blunders, making confusion worse confounded under the shadow of the acquiescence of the Secretary of the Treasury, and they actually seem to be going from bad to worse in the later political appointments of Supervising Inspectors of large districts.

A MASTER and engineer got into a jangle a few days ago on Lake Erie and the engineer used threatening language. On arrival at Detroit the engineer was imprisoned on the charge of insubordination, he was dismissed next day by the U. S. Commissioner, and he subsequently entered an action against the master for alleged malicious prosecution and false imprisonment. It is quite true that considerable friction sometimes arises between the pilot house and engine room and quite a little tact is necessary to make both ends of the boat go the same way. The man who professes to be master of his business stands on a rather different basis than the journeyman, or in other words, the shipmaster is liable to view conditions in a different light to the mechanical engineer, or tradesman; as we have said, with the exercise of leniency and ordinary discretion in their daily bearing towards each other, there is seldom any occasion for unpleasant relations to exist between the engineer and the master.

A SMALL North of England tramp steamer came up through the St. Lawrence system of canals and loaded railroad iron at Lorain, O., a few days ago, for Sydney, N. S. Some of the dailies vainly imagine that this trip of the little Sunderland steamer solves the problem of continuous ocean, canal and lake transportation. In stating that no craft could be built suitable for the combined traffic, or rather, could not attempt to enter into competition in the Atlantic trade, we are reminded that a greater economy is now practiced in transportation by water than in any other enterprise, adventure or business extant. Specially built tonnage is required for the particular trade in which it is to be engaged if the acme of water borne traffic is looked for.

PLANS are being drawn for an ice crusher which the Ann Arbor railway will very likely have built. It is said the contract may go to Craig at Toledo. This ice-crusher will be used on the Menominee-Frankfort route. The car-ferry Ann Arbor No. 1 came out of the stationary dry dock at the south yard, in Milwaukee, Monday, after a stay of a fortnight. Her repair bill will be between \$7,000 and \$8,000. The No. 1 was the boat imprisoned in Green Bay ice fields the past winter.

THE question is, how long a time and how many millions of dollars will it take to widen Chicago river so as to decrease the current and provide for the enormous increase of population within the sanitary district. It should be remembered that for every 100,000 increase of population 20,000 cubic feet of water per minute must be added to the flow.

LAKE FREIGHTS.

The freight market has been slow and on the decline since last week. On Friday grain rates fell off to 1½ cents, on Saturday, to 1¾ cents, settling at 1¼ cents on corn from Chicago to Buffalo, and 3 cents to Lake Ontario, the Duluth rate on wheat fell from 2½ cents to 2 cents, though some small lots were placed at 2¼ cents, on Friday last charters would not be taken at less than 2½ cents.

Coal rates are steady and very firm at Buffalo, but considerable detention is experienced in loading at Cleveland. Lumber rates are nominally at \$2.50 per M feet from the head of the lakes with vessels holding for \$2.75 with very light chartering.

The going rate on iron ore, Escanaba to Lake Erie ports is still at 70 cents, and while no Marquette business is reported, \$1 would, no doubt, be taken from the head of the lakes, at least that was the rate offered several days ago, and marked a 5 cent reduction as charters have been placed at that figure.

The reports that come from the head of the lakes show that the supply of ore has not materially increased in the last few days. There is a little better demand for ore tonnage, enough to make the rates slightly stronger, but it is not enough to make any change or even talk of a change in the rates. The chartered boats have been compelled to wait for their cargoes, but now they are getting the ore in pretty good shape, the delays having been reduced to the minimum.

The perplexing problem is the rate on grain out of Chicago, with the rate 1¼ cents the boats cannot run with profit. The expenses this year are entirely too heavy for that, and yet there has been talk of shippers making a flat rate of 1 cent.

There is a marked feeling that owners who did not fix ahead for the season will come out all right later on, at the same time \$1.25 from the head of the lakes means a fair earning for boats of even moderate capacity providing they meet with prompt dispatch at loading and discharging ports.

Iron ore shipments have not yet properly swung into line there is a detention in loading coal and lumber. Shipments are held back, except that Tonawanda has got fully her usual share. The causes leading up to this situation can be at the best chiefly speculative.

CONNORS SYNDICATE-CANADIAN ROUTE.

Members of the New York Produce Exchange are much interested in dispatches from Montreal stating that the harbor board there had accepted the plans of the Connors syndicate to build a 1,000,000 bushel elevator at that port, with storehouses attached having a storage capacity of 2,000,000 bushels. It is understood that the buildings are to be ready in time to handle the season's crop. Mr. Connors said:

"The company for which I got the land concessions has a Dominion charter and will be known as the Canadian Inland Transportation Company. We are figuring on elevators at Montreal and Port Colborne by August, and on twenty-one boats by 1901—seven steamers 15 feet draught, 3,500 tons each, and 14 barges of canal draught of 2,400 tons each. We expect to put \$4,000,000 into the business. The steamers will carry 100,000 bushels and the barges 80,000 bushels each.

"One steamer and two barges can make the round trip between Duluth and Montreal in eighteen days and carry 250,000 bushels. At 7 cents per bushel freight would be \$17,500, and expenses at \$200 per day would be \$3,600. That is pretty good business, and all my figuring is that our company will have a share of it. I don't see what chance Buffalo and the Erie canal can have in seaboard shipments while the canal is in its present shape, and it cannot be improved for five years. In that time a good company, with full swing over a 14 foot canal, can make a lot of money."

OUTPUT OF THE AMERICAN SHIP BUILDING CO.

Within the past three months the several lake yards of the American Ship Building Co. (Consolidated), have launched twelve large steel vessels, including two 500-footers. These craft cost \$4,500,000, and their combined carrying capacity is 70,000 tons. There are now on the stocks in the yards of the company eleven more large craft, the combined carrying capacity of which is 60,000 tons; cost, \$4,000,000. Here are twenty-three new vessels, with carrying capacity of 130,000 tons, costing \$8,500,000. In lake shipyards outside of the American Ship Building Co., craft have been launched, or are almost ready, with capacity of 40,000 tons, making a total of new tonnage of the largest class of 170,000, and total valuation of about \$11,500,000.

WON'T RIGHT A WRONG.

The most important development up to date has come to light at Chicago, and that is the determined opposition offered by the canal authorities to the advice from Washington that Maj. Willard, United States District Engineer will be given power to control the flow in the artificial channel. Trustee William Boldeweck echoes the views of all the canal officials, when he says: "Nothing will come of it. We deny that the canal hurts navigation in the stream. And the more the chances of it affecting the lake levels is a matter that will have to be proven at a later date. It has not affected the levels yet, and that is something that must not be lost sight of. We will fight the charges at every point, and, if necessary, will send representatives to Washington to fight our case. Thirty million dollars have been expended on the work, and do you think for a minute we are going to allow the canal to be practically abandoned. Boats are moving up and down the river every day, and I am safe in saying that the canal is here to stay. Of course, we recognize the importance of the interests represented by the Lake Carriers' special committee, but at the same time there is another side to the question. We control the canal at present, and while doing all in our power to help navigation, we will not be thwarted by an exaggeration of the facts."

THE GREAT ECLIPSE.

Though Cleveland will not be within the belt of the total phase, and not since 1869 has it witnessed an eclipse of the sun, that came anywhere near equalling in magnitude the one that is expected to be on exhibition not only in Cleveland, but nearly the whole of North America, except the very northern-most portions of Alaska, and the whole of Europe and portions of Asia and northern Africa. Its northern limit in North America, even surpassing the brave Nansen's "Farthest North," and including within its faint partial shadow—the long-sought for Pole. Who knows but that it will also cast its slight pall for a moment upon the last resting place of the ill-fated Andree during the early morning of May 28. The following schedule of the time of the phases as presented at Cleveland and vicinity may perhaps be of some service to those who wish to observe the impressive spectacle. The eclipse is expected to begin at 6:39 a. m. or 6 o'clock Central Standard time. Greatest obscuration 7:56. The curtain is supposed to fall at the close of the great exhibition about 9:13 a. m., and the eclipse of this last year of the 19th century will be a fact in history. I have not sufficient data at hand to be positive as to the exact minute. The duration of the eclipse 2 hours and 38 minutes. Magnitude of the eclipse about eight or nine-tenths of the sun's disk on the southern or lower limb, will be covered by the dark body of the moon, not by the shadow of the moon as some express it. I suppose smoked or colored glass will be at a premium during the progress of the eclipse. This method of observing is the individual or direct vision method. A more general, and in some respects more satisfactory method, is to project a picture of the sun on a card by means of a short tube with a disk of card-board attached near the end of the tube toward the sun, in order to form a shadow around the picture to make it more distinct. A still more simple method would be to make one or more small smooth-holes in a piece of card-board, held perpendicular to the sun's rays and to receive the picture or pictures on a second card held parallel to the first. Of course the best way is to project a picture on a card by means of a telescope.

Let us hope that the weather will be favorable and that no cruel clouds will intrude upon the scene.

Toledo, O. D. SATTERTHWAITE.

MODESTLY ASSUMPTIVE.

A special from Ottawa says that the Canada National Railway & Transport Co's. bill was discussed by the Railway Committee on Tuesday. This bill provides for a railway between Toronto and Georgian Bay. A. Campbell, M. P., who had charge of the bill, said that the company intended to place eight steamers on the upper lakes at a cost of \$195,000 each, and thirty-two steamers between Montreal and Toronto drawing 14 feet, at the cost of \$95,000 each. There are fourteen Canadian directors and six Americans on the board. The bill was passed with the exception of a clause which the Minister of Railways is to prepare to permit of the government taking over the road if it should so desire.

"I wonder will they miss me?" wrote the poet in violet ink on gilt-edged paper. And the editor, as he tossed the manuscript into the yawning gulf at his side, murmured softly: "If they do they never ought to be trusted with a gun again."—Weekly Telegraph.

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LITERARY AND BOOK NOTICES.

The May number of the American Elevator and Grain Trade, published at Chicago, gives two pages of space to an elaborate write up prepared by D. G. Doubleday, on the elevators and grain handling facilities of Superior. Seven large cuts appear also, among them being a picture of the Great Northern's grain inspection yards.

The North American Review for May contains a number of articles touching the more important topics of the day. Next to the South African war, which has been dealt with at length from all possible points of view, in previous issues, the subject which provokes the greatest speculation just now is, "The situation in the Far East," to which the May number devotes four different articles.—New York: The North American Review.

The thanks of the RECORD are due Mr. Denison B. Smith, secretary Produce Exchange, Toledo, O., for a copy of his 41st annual report of the trade, commerce and manufacturing of Toledo for the year 1899. The present annual is fully up to the standard of the previous issues, and in this connection, we note that it is the 23rd report compiled by Mr. Smith for the Produce Exchange. According to the latest project for harbor improvements the channel to Toledo is to be maintained at 21 feet in depth and 400 feet wide.

Our thanks are due the American Association of Masters and Pilots of Steam Vessels of the United States for a copy of the log of their fourteenth annual voyage held at Washington, D. C., January 22-26, 1900. The names and addresses of the Grand Harbor Officers for the present term are as follows: Grand Captain, Capt. John C. Silva, 47 Walnut street, East Providence, R. I.; Grand First Pilot, Capt. John T. Fowler, P. O. Box 37, Bordentown, N. J.; Grand Second Pilot, Capt. Ben M. Mirrielees, Station C. Cincinnati, O.; Grand Captain's Clerk, Capt. Benj. F. Perkins, 421 Washington street, Camden, N. J.; Grand Purser and Counsel for the Association, Capt. Luther B. Dow, 974 Madison street, Brooklyn, N. Y.

We have received, with the compliments of the Lidgerwood Mfg. Co., Liberty street, New York, a brochure on the solution of the problem of coaling vessels at sea. The Lidgerwood-Miller-Marine Cableway has been patented in the United States and foreign countries. It is adapted to transfer coal, ammunition, supplies or provisions from ship to ship at sea. It appears from actual trial in fueling, that the apparatus transferred over 20 tons of coal per hour, in a sea a little heavier than moderate, with a distance of about 400 feet between the ships. There can be no doubt but that there is a very successful and useful career ahead of the Lidgerwood-Miller-Marine Cableway in transporting packages from hull to hull at sea.

The New York Air Compressor Co., 120 Liberty St., New York, Air Compressors. Compressed air to-day occupies a recognized position in almost every branch of manufacturing, arts and sciences, and many new and important methods and processes are based upon the utilization of this power. In commercial service, the New York Air Compressor Co. speak of the economy found by the use of compressed air in caisson work, calking boilers, tanks, stacks, etc., canal locks or lifts, channeling machines, cleaning flues, handling and working cranes, cutting off stay bolts, divers, driving machinery in shops, pumps, etc., all of which are embodied in marine, submarine, shipbuilding and kindred industries. Besides this finely illustrated catalogue of the air compressing machines, a table is given showing capacity lost by air compressors operating at various altitudes above sea level and pressure lost in transmitting air through pipe, etc.

Practical Navigation is one of the excellent Griffin's Nautical Series, published by J. B. Lippincott Co., Philadelphia, written mainly by sailors for sailors. The practical and theoretical treatment of the subject is as free as possible from abstruse technicalities, and yet thoroughly scientific, while the style is especially adapted for the student to gain a knowledge of the elements of his calling and profession

by careful reading and application to the text, of the various subjects set forth in connection with the sciences upon which the art of navigation is founded. The work contains numerous illustrations, line drawings and examples worked out in detail, so that with the assistance of an epitome all problems may be easily and accurately solved. Those who desire to become proficient in their calling should not be without a copy of Practical Navigation, in stiff covers, 150 pages, size 7½ by 5 inches, price \$1.50. The book can be ordered from the MARINE RECORD.

Electric Wiring by Cecil P. Poole, the Power Publishing Co., World Building, New York. Price \$1. This book of 100 pages 7 by 4½ inches, in flexible covers, is designed to serve both as an instructor for practical wiremen who have occasion to lay out their own work, and as a convenience and general reference book for electrical engineers, whose work includes the calculation of transmission circuits, etc. The suction on alternating-current wiring contains comprehensive data given in a thoroughly practical form, and tables showing the corrected drop in inductive circuits are also given. The book is not a hap-hazard compilation gathered from technical journals, but represents an honest effort on the part of the author to explain the computation of wiring to the uninitiated, and to present in shape for convenient reference, tables and formulas for the use of competent engineers. The work is invaluable to those interested and in practical touch with electric wiring.

The office of Naval Intelligence publishes the fourth edition of the compilation on "Coaling, Docking and Repairing Facilities of the Ports of the World, with Analyses of Different Kinds of Coal." This complete and valuable document in its first edition appeared in 1885, in the form of a report upon the comparative merits of anthracite and bituminous coal, to which was added in a second edition in 1888 a number of analyses and tests of different kinds of coal. A third edition in 1892 omitted the discussion on coal and altered the form of the tables in some particulars, with many additions and corrections. Comdr. Richardson Clover, U. S. N., Chief Intelligence Officer, says of the present edition that in the compilation of its second part information has been obtained from cruising vessels and other official sources, from the proprietors of a number of docks and industrial establishments, from various commercial and technical publications, and from the Dock Board of the British Hydrographic Office and other sources.

The Technic of Mechanical Drafting is the title of a new guide to correct and legible drawing, published by the Engineering News Publishing Co., 220 Broadway, New York, and edited by Charles W. Reinhardt, the chief draftsman of that ably conducted engineering journal. The book is eminently practical, and as might be expected from a man of Mr. Reinhardt's varied study and experience, has many ideas designed to secure improved legibility, as well as to save time and avoid confusion when the work passes into the hands of the shopman or contractor. The author's ideas are clearly expressed, and the sample drawings and diagrams which are printed in illustration of the text are admirably executed. This book is intended as a practical guide to neat, correct and legible drawing for draftsmen of some experience, but is not a manual for beginners. The book takes up such subjects as outlining, section lining, curved surface shading, shading of inclined surfaces, map drawing, character and finish. The book is illustrated with numerous plates, and the reputation of its author is equivalent to a guarantee that something useful has been produced. The work is divided into eight chapters under the following headings: General shading, section lining, curved surface shading, shading of incline surfaces, map drawing, character and finish. Among the ten full page plates are many blocks showing a system for conventionally representing almost every sort of material, including all the different metals in common use. The size of page is 8x10½ inches, and the price of the book only \$1.

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NOTICE TO MARINERS.

TREASURY DEPARTMENT,
OFFICE OF THE LIGHT-HOUSE BOARD,
WASHINGTON, D. C., May 21, 1900.

FORT NIAGARA LIGHT STATION.—Notice is hereby given that the tower from which the fourth-order fixed white light is shown at this station, on the high easterly bank of the Niagara river, about ¼ mile from its mouth, southerly side of Lake Ontario, will be at once increased in height 10 feet. The additional part of the tower will be built of white brick and will be left natural color.

The focal plane of the light will then be 89½ feet above mean lake level, instead of 79½ feet as at present.

The exhibition of the light will not be interrupted.

The change in the height of the light should increase its range of visibility, both in the river and upon the lake, where it is now obscured by trees.

OGDENSBURG LIGHT STATION.—Notice is hereby given that the tower from which the fourth-order fixed white light is shown at this station, on the low rocky point at the westerly side of the mouth of the Oswegatchie river (Ogdensburg Harbor), southerly side of the St. Lawrence river, will be increased in height about 20 feet. The work will be completed on or about June 30, 1900.

The new part of the tower will be built of white brick and will be left natural color. The color of the old part of the tower will be changed from gray to white.

The focal plane of the light will then be 63½ feet above mean lake level, instead of 43½ feet as at present.

On the date mentioned the arc of illumination of the light will be increased so that the light will be visible from all points of approach from the rivers.

The exhibition of the light will not be interrupted.

By order of the Light-House Board:

FRANCIS J. HIGGINSON,
Rear Admiral, U. S. N., Chairman.

LIGHT-HOUSE ESTABLISHMENT,
OFFICE OF THE LIGHT-HOUSE INSPECTOR, 11TH DISTRICT,
DETROIT, MICH., May 18, 1900.

In accordance with Notice to Mariners No. 41 of 1900, issued by the Light-House Board April 7, 1900, four gas lighted buoys, as follows, were established May 15, 1900, in the St. Mary's River, to mark the improved channel at Sailors' Encampment.

Rains Island No. 9 painted black, in 21 feet of water, on westerly side of the southerly end of the improved channel.

North Middle Ground painted red and black in horizontal stripes, in 18 feet of water on the easterly side of the improved channel and on the northerly end of the middle ground.

Johnson's Point No. 17 painted black, in 20 feet of water, on the westerly side of the improved channel and marks the first turning point into Dark Hole Channel.

Rains Island Shoal No. 19 painted black in 22 feet of water on the westerly side of the improved channel and marked the second turning point into Dark Hole Channel.

Gas Buoys Nos. 9, 17, and 19 show a fixed white light 10 seconds, eclipse 10 seconds.

North Middle Ground Gas Buoy shows a fixed red light 10 seconds, eclipse 10 seconds.

Also at St. Clair Flats Canal, Lower Entrance (west side) a gas buoy No. 21 painted black and moored on the north-westerly side of the southerly end of the dredged channel leading into canal and in range with the St. Clair Flats Canal lights. This buoy shows a fixed white light 10 seconds, eclipse 10 seconds.

By order of the Light-House Board.

J. C. WILSON,
Commander, U. S. Navy, Inspector.

Services as Inspector of Dredging.—One employed by a contractor for dredging as an inspector, at a fixed salary per day, pursuant to a state law requiring the work to be done under inspection, is not entitled to a maritime lien for his services upon a dredge owned and used by the contractor for the amount due him for services. The Saratoga et al., 100 Fed. Rep. (U. S.) 480.

U. S. TREASURY DECISION.

APPEALS FROM DECISIONS OF LOCAL INSPECTORS.
Department declines to take action on decisions of local inspectors of steam vessels until decision of the supervising inspector is had on appeal.

TREASURY DEPARTMENT, May 14, 1900.

Sir: The Department has carefully considered the statements in your letter of the 9th inst., and would advise you to appeal to the supervising inspector at New York from the decision of the local inspectors reducing the number of passengers on the steamers of your line below that formerly allowed them.

Your attention is called to the fact that the decision of the Solicitor of the Treasury, locating the dividing line between seagoing and inland steamers, only refers to the lifeboat and liferaft equipment of such steamers, and has no bearing upon the question of the number of passengers to be carried upon steamers of either class.

Questions relating to the number of persons a steamer may carry are governed by the provisions of Section 4464, Revised Statutes, which is quoted for your information as follows:

Sec. 4464. The inspectors shall state in every certificate of inspection granted to steamers carrying passengers, other than ferry boats, the number of passengers of each class that any such steamer has accommodations for, and can carry with prudence and safety.

The department, considering the statute quoted, has decided (decision 3268, June 20, 1877) substantially that the limitation of passengers on steam vessels is discretionary with the local inspectors, who are to be governed in their judgment by the condition of the steamer to carry the number granted "with prudence and safety," whether on inland waters or waters of the ocean.

It is the opinion of this department that the local inspectors in the case under consideration have possibly erred in judgment. If so, the method of correction is laid down in Section 4452, Revised Statutes, namely, in an appeal to the supervising inspector of the district, who has authority, if the local inspectors have erred in their decision, "to revoke, change or modify it."

Until this latter form of law has been complied with, the department can take no further action in the case.

Respectfully,

O. L. SPAULDING, Ass't Sec'y.

Mr. Allan C. Washington, President Iron Steamboat Co., New York, N. Y.

EASTERN FREIGHTS.

Messrs. Funch, Edye & Co., New York, report the Eastern freight market as follows:

Owing to practical absorption of prompt open tonnage, grain charterers have had to turn to June boats, several of which have been taken up at figures previously conceded for May loading. The demand for time boats has not been pressing, and several owners of such tonnage offering at highwater mark rates have met with disappointment on our market. The enquiry for timber tonnage from the Gulf ports has continued on an unusually brisk scale, and intending charterers hanging back, in hopes of securing concessions in freights have, in several instances, lost to their competitors vessels they had expected to secure. Deal freights from the provinces show a slightly advancing tendency, whilst steamers continue in good demand for various purposes. Case oil freights to the Far East are inactive, shippers having, for the time being, withdrawn from same.

Our market for sail tonnage is generally unchanged, offerings for tonnage continuing scarce, but, on the other hand, there is much enquiry from the trade to the Far East or to the Colonies, and rates in these directions are rather weaker, particularly for case oil to Japanese ports, this latter being apparently now well provided for. A charter of a vessel to

Java at 24 cents cannot be considered a criterion of inherent strength of the market, as latterly owners have been unwilling to send their ships in that direction. Naval store freights are rather firmer, and there is likewise a little more enquiry for general cargo tonnage for South Africa. Rates, however, although firm, show no change.

SUN'S AMPLITUDES.

The following approximate amplitudes of the Sun's rising will be given each week in this column during the season of navigation. A second bearing may be taken by compass at sunset, by reversing the east bearing given for the nearest latitude, as the change in declination for a few hours makes but a slight difference in the true bearing of the Sun's setting. The bearing may be taken when the Sun's center is on the horizon, rising or setting. The elements which may be obtained by taking these amplitudes are the quantities known as local attraction, variation and deviation, or the total difference between compass and true, or geographical bearings.

LAKE ERIE AND S. END LAKE MICHIGAN, LAT. 42° N.

Sunrise. Amplitudes. Bearing P'ts. Bearing Comp.
May 25.....E. 28° N. = N. 5½ E. = N. E. by E. ½ E.
May 31.....E. 30° N. = N. 5½ E. = N. E. by E. ¾ E.

LAKE ONTARIO, S. END HURON AND CENTRAL PORTION LAKE MICHIGAN, LAT. 44° N.

Sunrise. Amplitudes. Bearing P'ts. Bearing Comp.
May 25.....E. 29° N. = N. 5½ E. = N. E. by E. ¾ E.
May 31.....E. 31° N. = N. 5½ E. = N. E. by E. ¼ E.

N. END LAKES HURON AND MICHIGAN, LAT. 46° N.

Sunrise. Amplitudes. Bearing P'ts. Bearing Comp.
May 25.....E. 31° N. = N. 5½ E. = N. E. by E. ¼ E.
May 31.....E. 32° N. = N. 5½ E. = N. E. by E. ½ E.

LAKE SUPERIOR, LAT. 48° N.

Sunrise. Amplitudes. Bearing P'ts. Bearing Comp.
May 25.....E. 32° N. = N. 5½ E. = N. E. by E. ½ E.
May 31.....E. 34° N. = N. 5 E. = N. E. by E.

With a compass correct magnetic, the difference between the observed and true bearing or amplitude will be the variation for the locality. Should there be any deviation on the course the vessel is heading at the time of taking the bearing, the difference between the observed and the true amplitude after the variation is applied will be the amount of deviation on that course. If the correct magnetic bearing is to the right of the compass bearing, the deviation is easterly, if to the left, the deviation is westerly.

MARINE PATENTS.

Patents issued May 19, 1900. Reported specially for the MARINE RECORD. We furnish complete copies of patents at the rate of 10 cents each.

- 649,427. Dumping boat. W. S. Barney, New York, N.Y.
- 649,525. Boat. J. C. Nichol, Montreal, Canada.
- 649,643. Arch-bridge. D. B. Luten, Lafayette, Ind.
- 649,771. Binnacle and steering stand. W. T. Stanworth, Norfolk, Va.
- 649,781. Means for propelling vessels. Antonio Voltor, Barcelona, Spain.
- 649,790. Steering-gear. E. C. Akers, Port Huron, Mich.

To enable tourists to cross the English Channel without the inconvenience of seasickness, a Frenchman has designed a submarine boat to be propelled by cable traction. It will accommodate about 50 passengers, and will make the journey in about an hour, and should any accident happen to the motive power the boat may be detached, and will at once rise to the surface and may continue the journey in the ordinary manner.

VISIBLE SUPPLY OF GRAIN.

As compiled for THE MARINE RECORD, by George F. Stone, Secretary Chicago Board of Trade.

CITIES WHERE STORED.	WHEAT. Bushels.	CORN. Bushels.	OATS. Bushels.	RYE. Bushels.	BARLEY Bushels.
Buffalo.....	2,253,000	846,000	506,000	125,000	241,000
Chicago.....	10,298,000	4,659,000	1,174,000	427,000	.....
Detroit.....	198,000	171,000	13,000	8,000	1,000
Duluth.....	11,843,000	1,208,000	460,000	43,000	50,000
Fort William, Ont..	2,603,000	.....	.....	.....	.....
Milwaukee.....	220,000	2,000	2,000	1,000	1,000
Port Arthur, Ont....	209,000	.....	.....	.....	.....
Toledo.....	185,000	476,000	202,000	1,000	.....
Toronto.....	65,000	.....	10,000	.....	32,000
On Canals.....	449,000	52,000	125,000	69,000	105,000
On Lakes.....	1,067,000	999,000	535,000	128,000	25,000
On Miss. River.....	.....	374,000	.....	.....	.....
Grand Total.....	46,263,000	15,227,000	6,386,000	1,118,000	829,000
Corresponding Date, 1899.....	25,468,000	16,978,000	7,957,000	827,000	1,537,000
Increase.....	.....	.....	.....	93,000	.....
Decrease.....	1,358,000	928,000	860,000	.....	124,000

While the stock of grain at lake ports only is here given, the total shows the figures for the entire country except the Pacific Slope.

THE Northwest Transportation Co., or Beatty Line, of Sarnia, and Northern Navigation Co., of Collingwood, have not amalgamated, as was reported some time ago. They are two distinct companies under two distinct managements. The only change is a transfer of some of the Beatty stock to the Collingwood company. John D. Beatty is the newly appointed manager of the Beatty line, as successor to James H. Beatty, who sold out his stock to the Northern Navigation Company.

Government Proposals.

U. S. ENGINEER OFFICE, Custom House, Cincinnati, O., May 16, 1900. Sealed proposals for hire of tow boat having cylinders about 14 inches diameter, with 5 feet stroke, to serve as tender for Ohio river dredges during present season, will be received here until 2 p. m., June 18, 1900, and then publicly opened. Information furnished on application. Wm. H. BIXBY, Maj., Engrs. 20-23

SEALED PROPOSALS will be received at the office of the Light-House Board until 2 o'clock p. m., June 25, 1900, and then opened, for furnishing the material and labor of all kinds necessary for the construction and delivery of the twin-screw steel steam light-house tender Sumac, for a fixed sum for said vessel, delivered either in the harbor of Chicago, Ill., or at the Light-House Depot at St. Joseph, Mich., as will be determined by the Light-House Board. Forms of proposals, plans and specifications may be had upon application to the Light-House Board, or at the office of the Light-House Inspector, Chicago, Ill. F. J. HIGGINSON, Rear Admiral, U. S. N. 21-22

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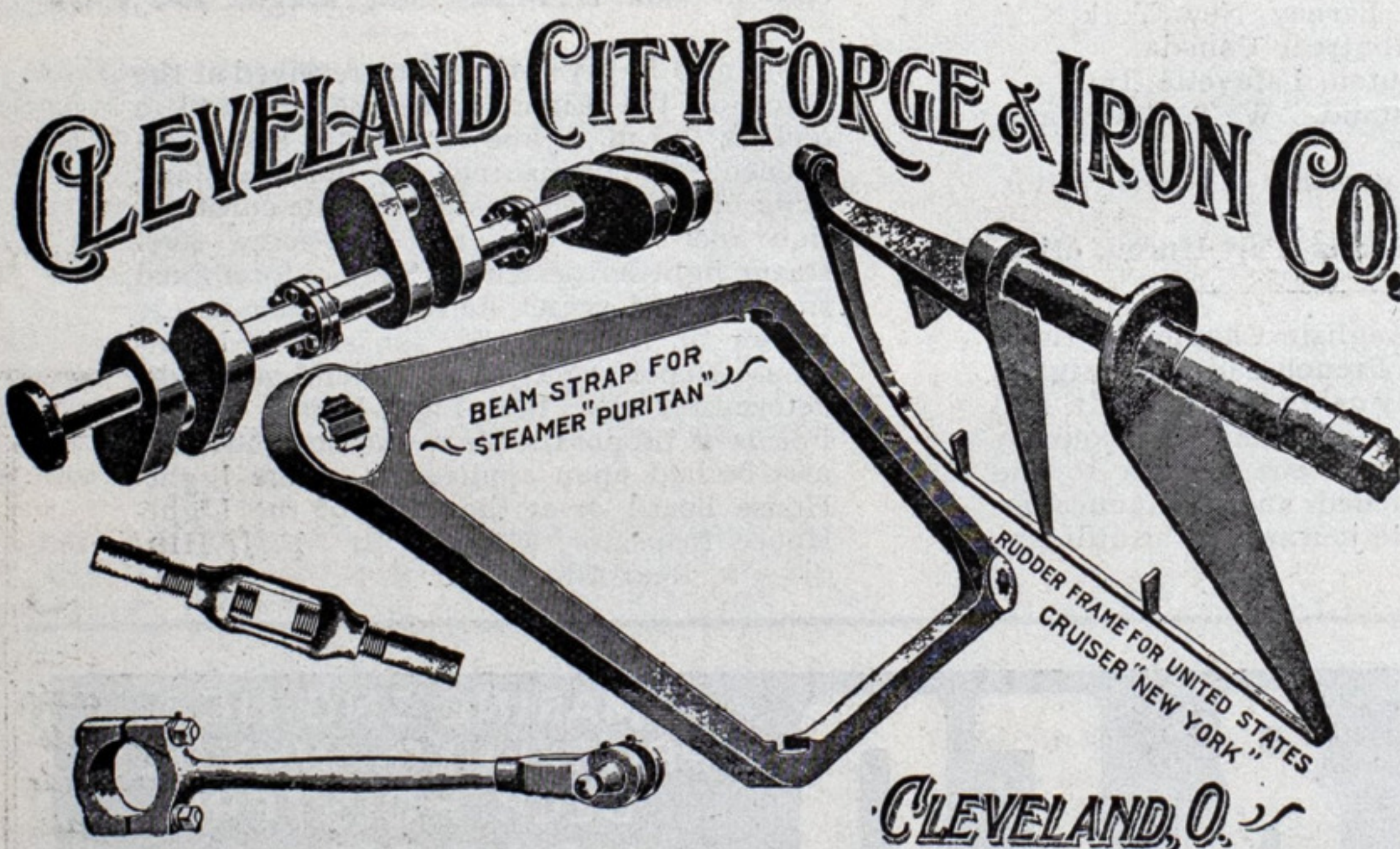
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DAVID CARTER, Manager Detroit & Cleveland Navigation Co., Detroit, Mich.
T. H. NEWMAN, Manager Cleveland & Buffalo Transit Co., Cleveland, Ohio.
SPITZER & CO., Bankers, Spitzer Building, Toledo, Ohio.
F. A. FORBES, General Manager Michigan Telephone Co., Detroit, Mich.
JOHN & F. P. GORDON, Traffic and Steamboat Managers, Buffalo, N. Y.
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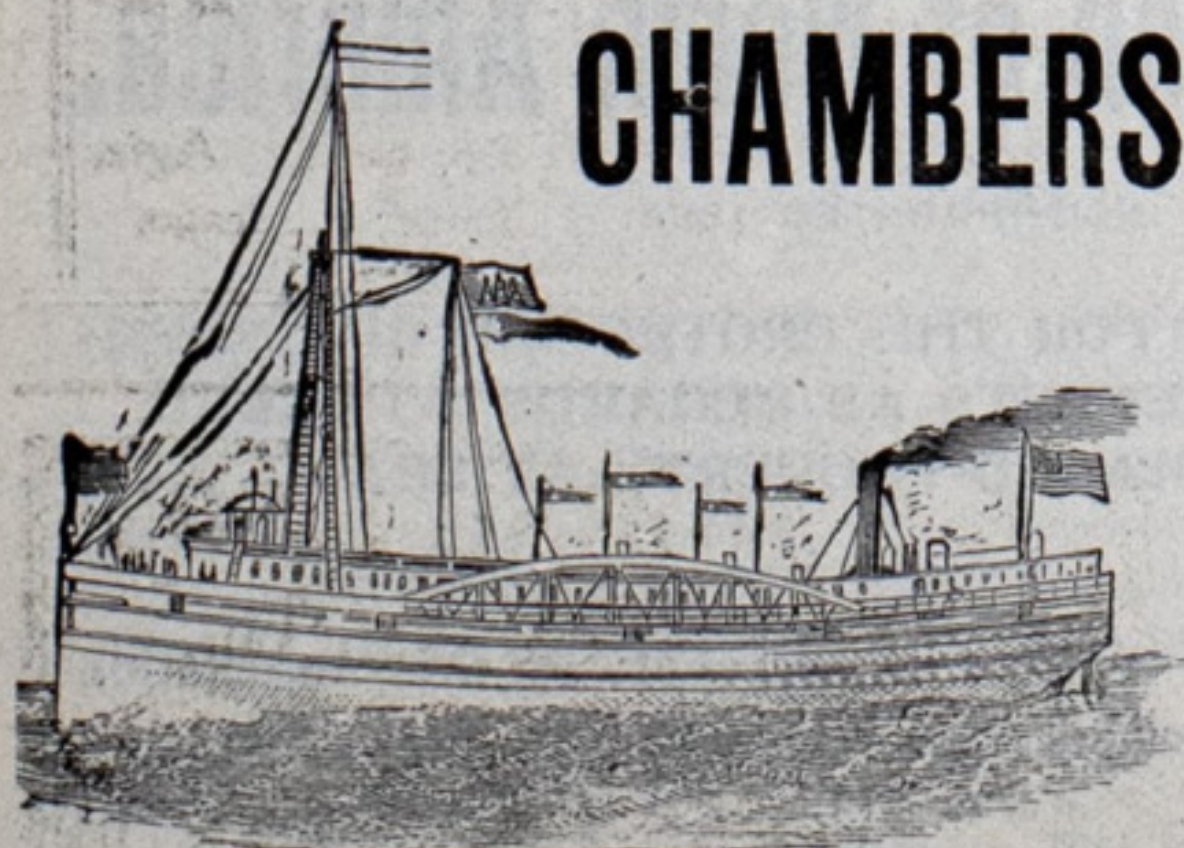
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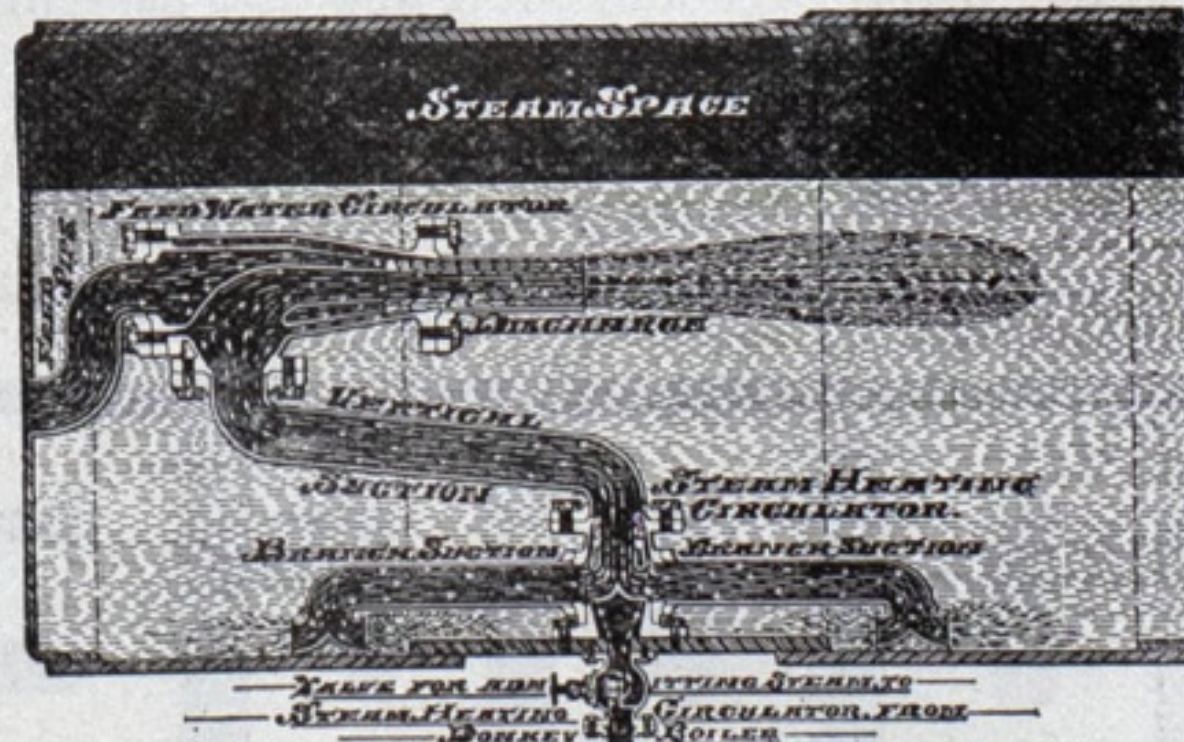
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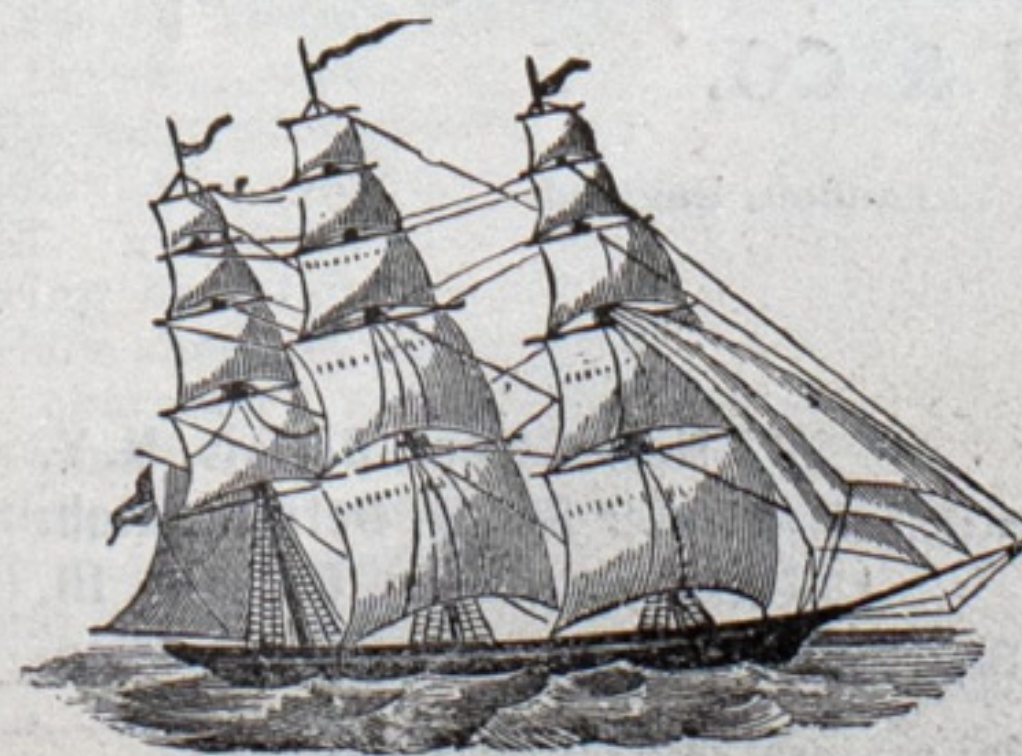
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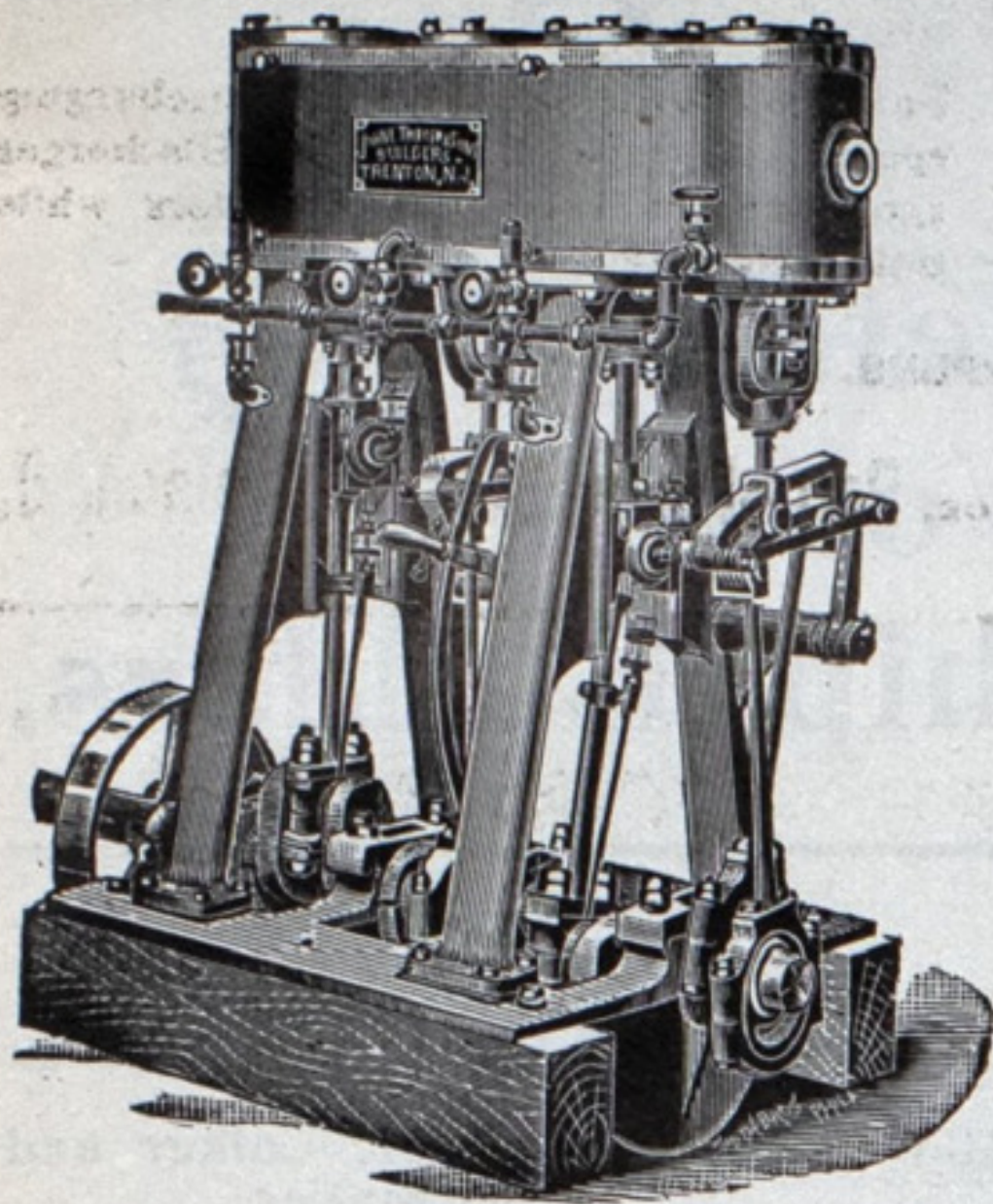
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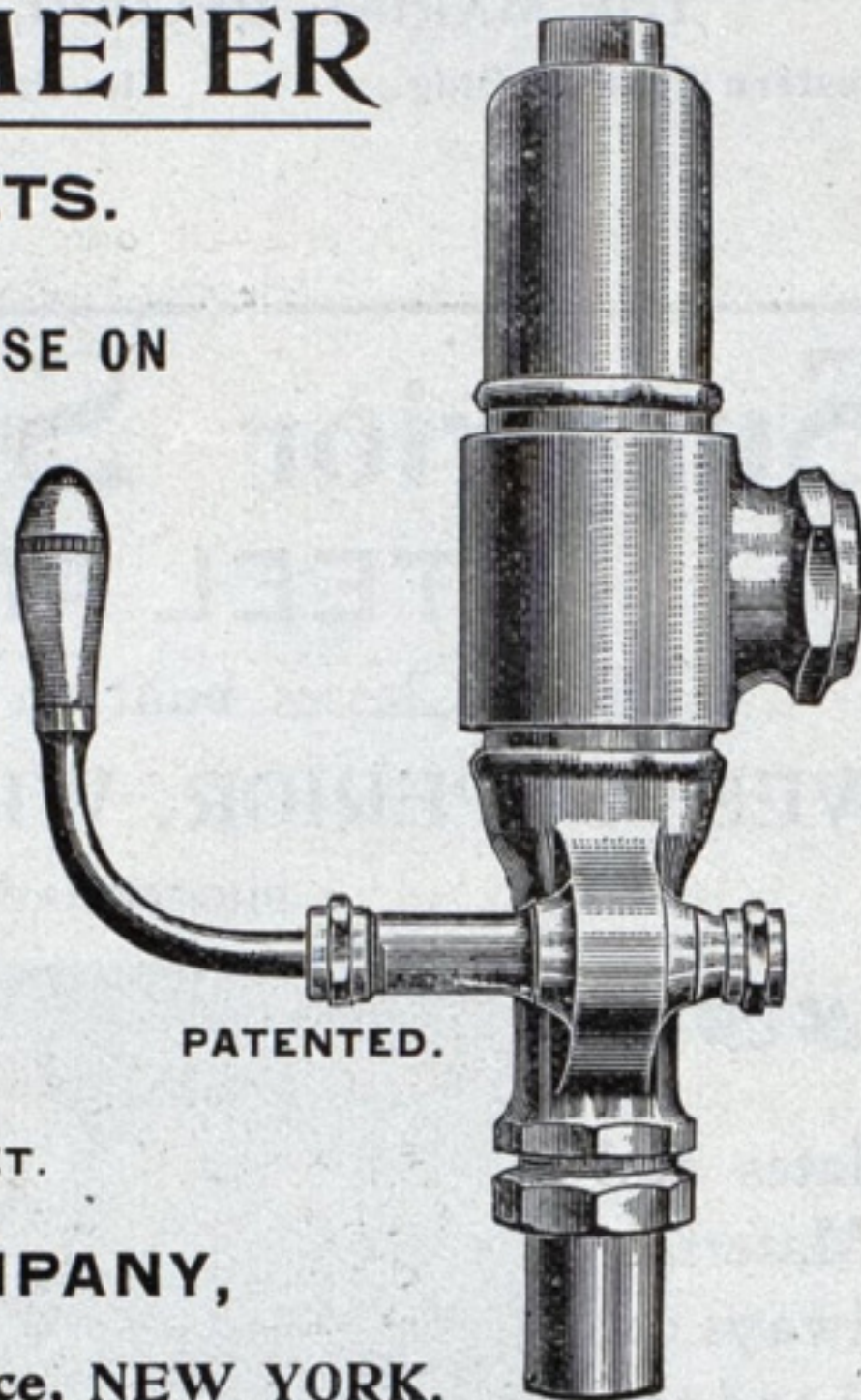
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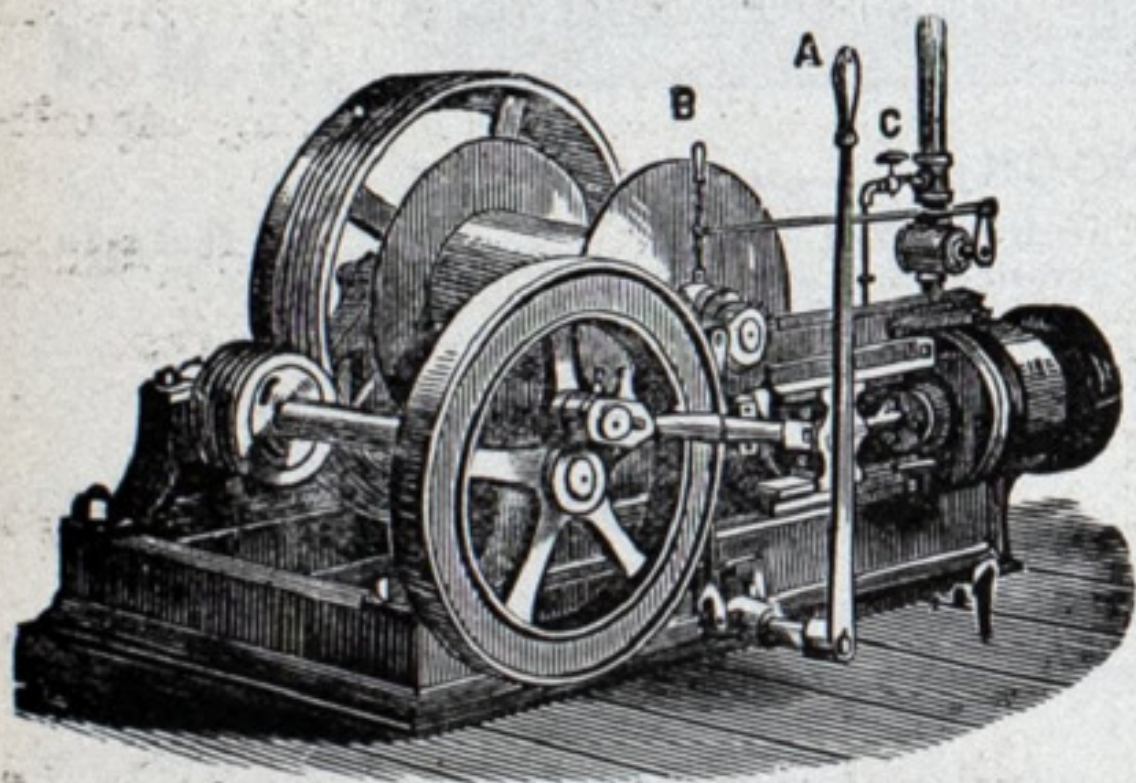
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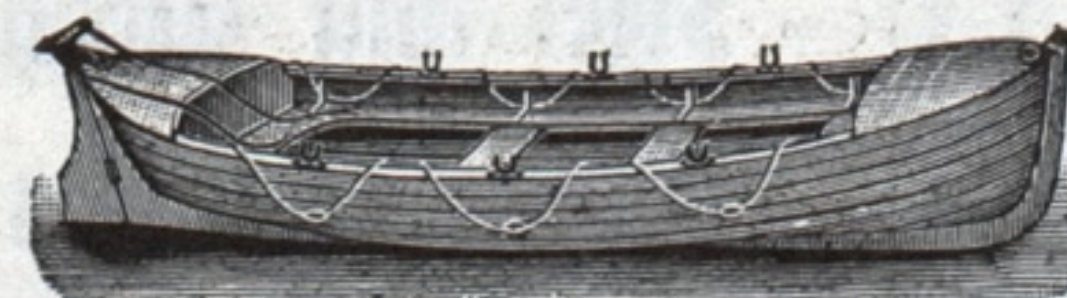
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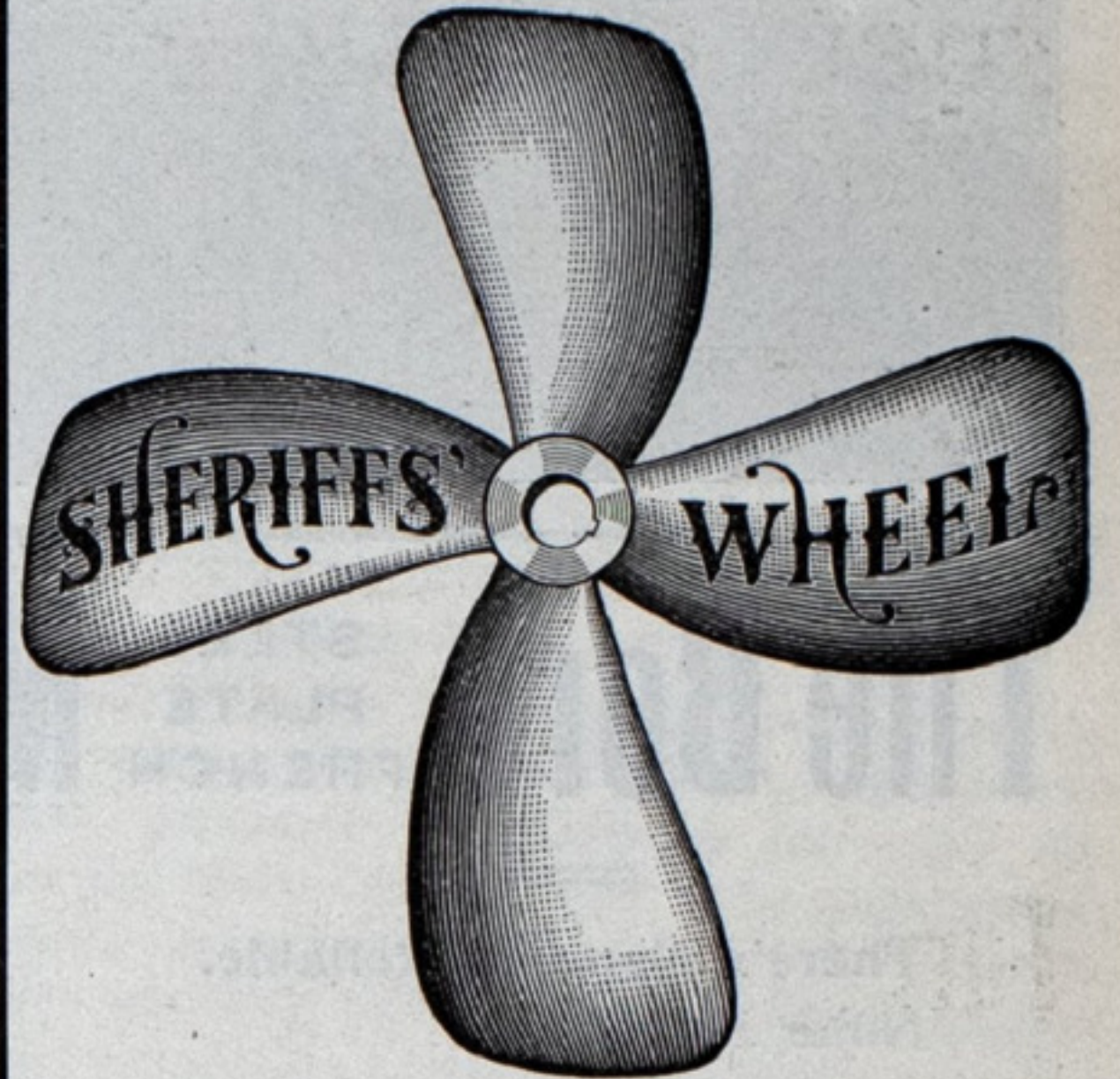
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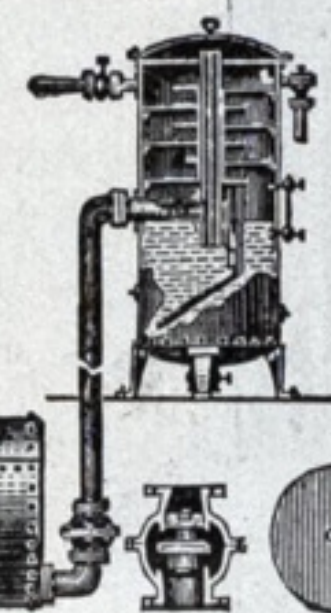
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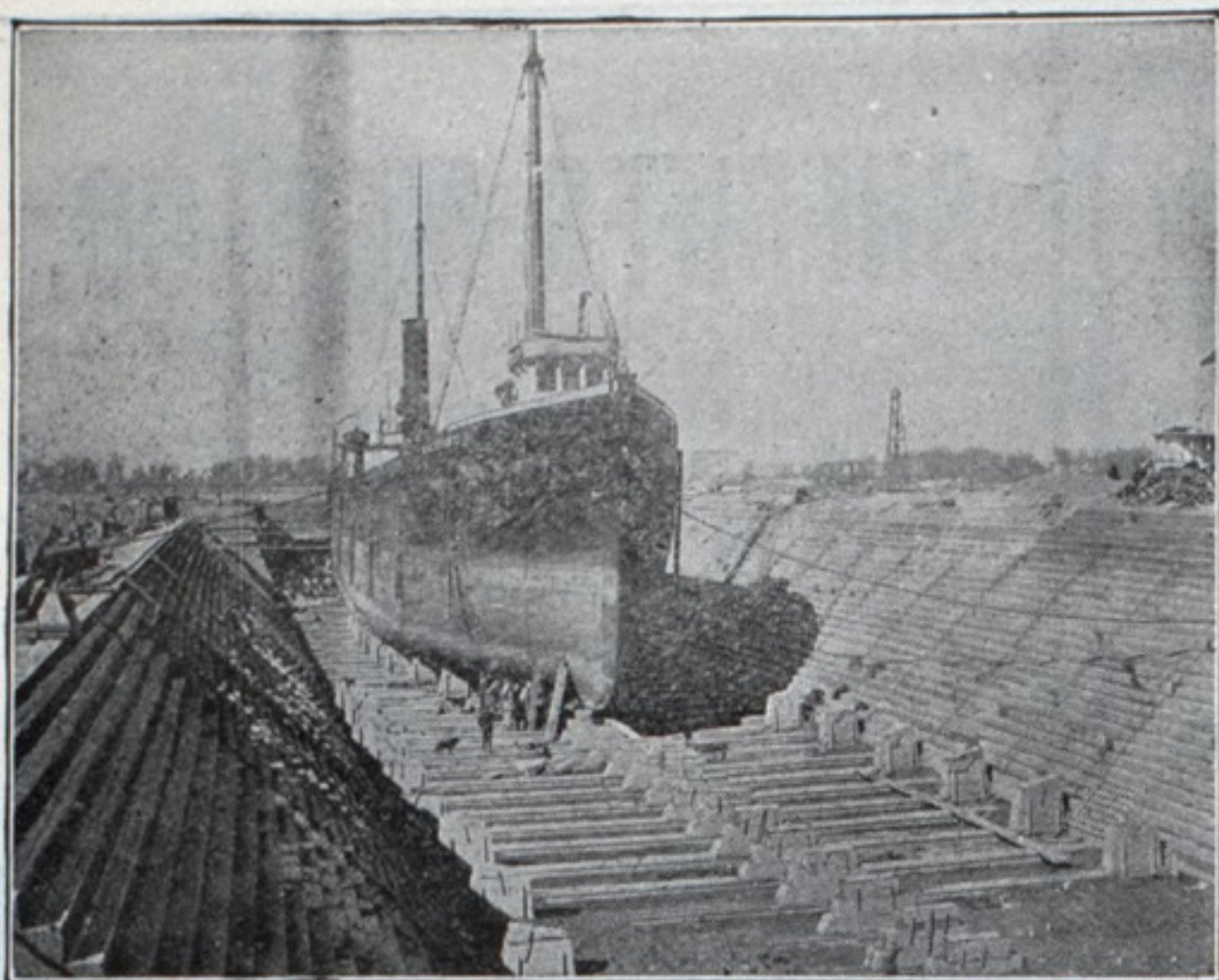


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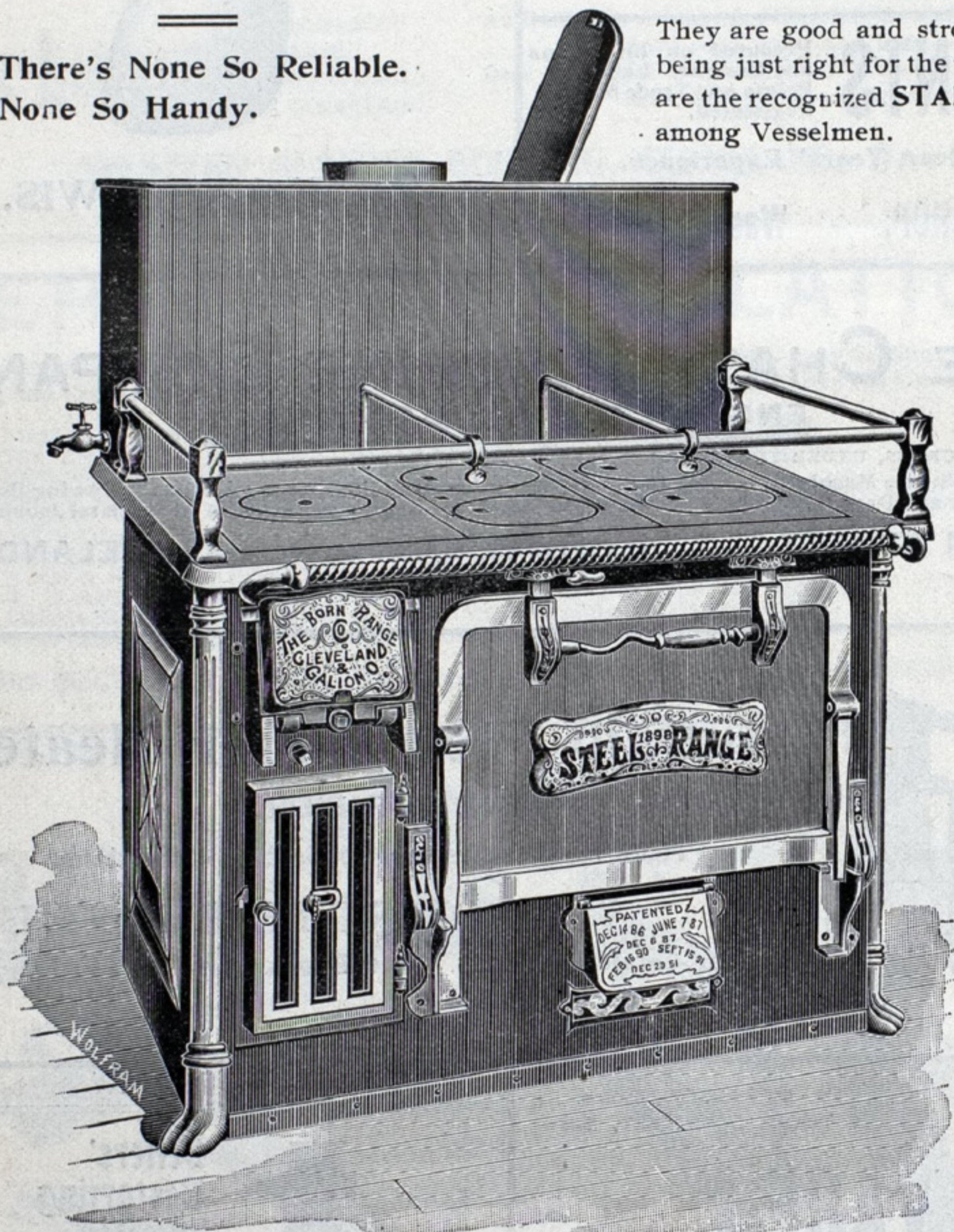
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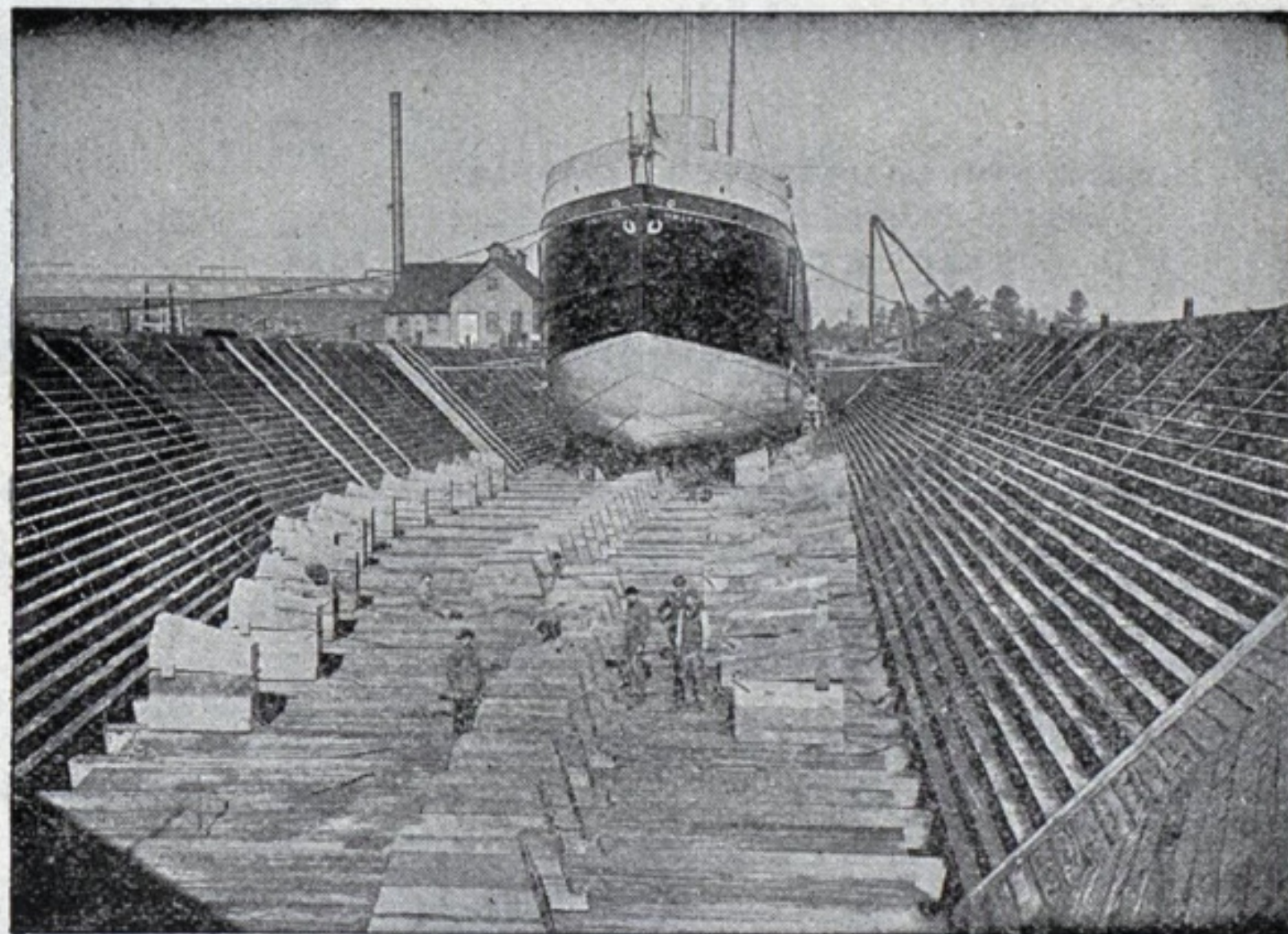
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